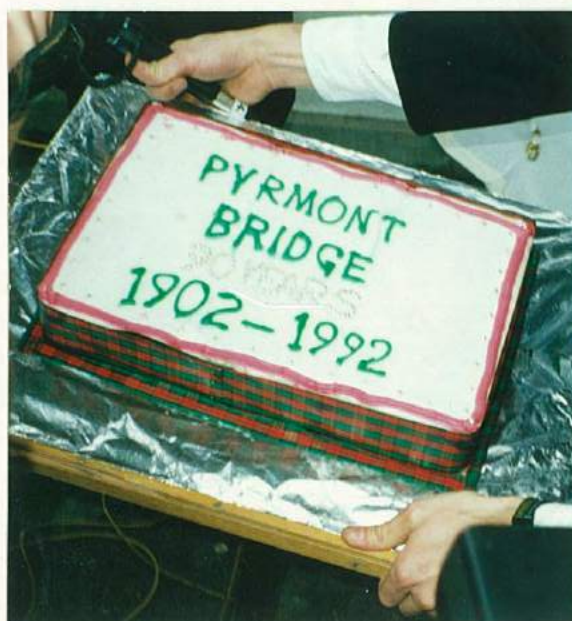


R E P O R T
ON THE
P L A Q U I N G
OF
P Y R M O N T B R I D G E
AS A
N A T I O N A L E N G I N E E R I N G
L A N D M A R K

ON THE OCCASION OF ITS

9 0 t h a n n i v e r s a r y

2 8 t h J u n e 1 9 9 2



OVERVIEW

Despite the cool overcast day, the event was a great success. The Institution of Engineers, Australia was represented by Martin Thomas, immediate Past President and the Darling Harbour Authority was represented by its General Manager, Terry Jones.

Official guests of the Institution included J. Fullagar (Chairman, Sydney Division), J. Dobell (Director, Sydney Division), P. Dalland (Chairman, Civil Engineering Panel), P. Hitchener (Chairman, Electrical Engineering Branch), J. Huckson (Chairman, Maritime Panel), P. Edwards (Chairman, Transport Panel), Paul Hagenbach (Chairman, Engineering Heritage Committee) and Ian Bowie, Don Fraser and Harry Trueman (Members, Engineering Heritage Committee).

Principal guest of the Darling Harbour Authority was Bill Allan, grandson of Percy Allan the designer of the 1902 Pyrmont Bridge. The Authority also invited many of the people who worked on the restoration of the bridge, together with their families.

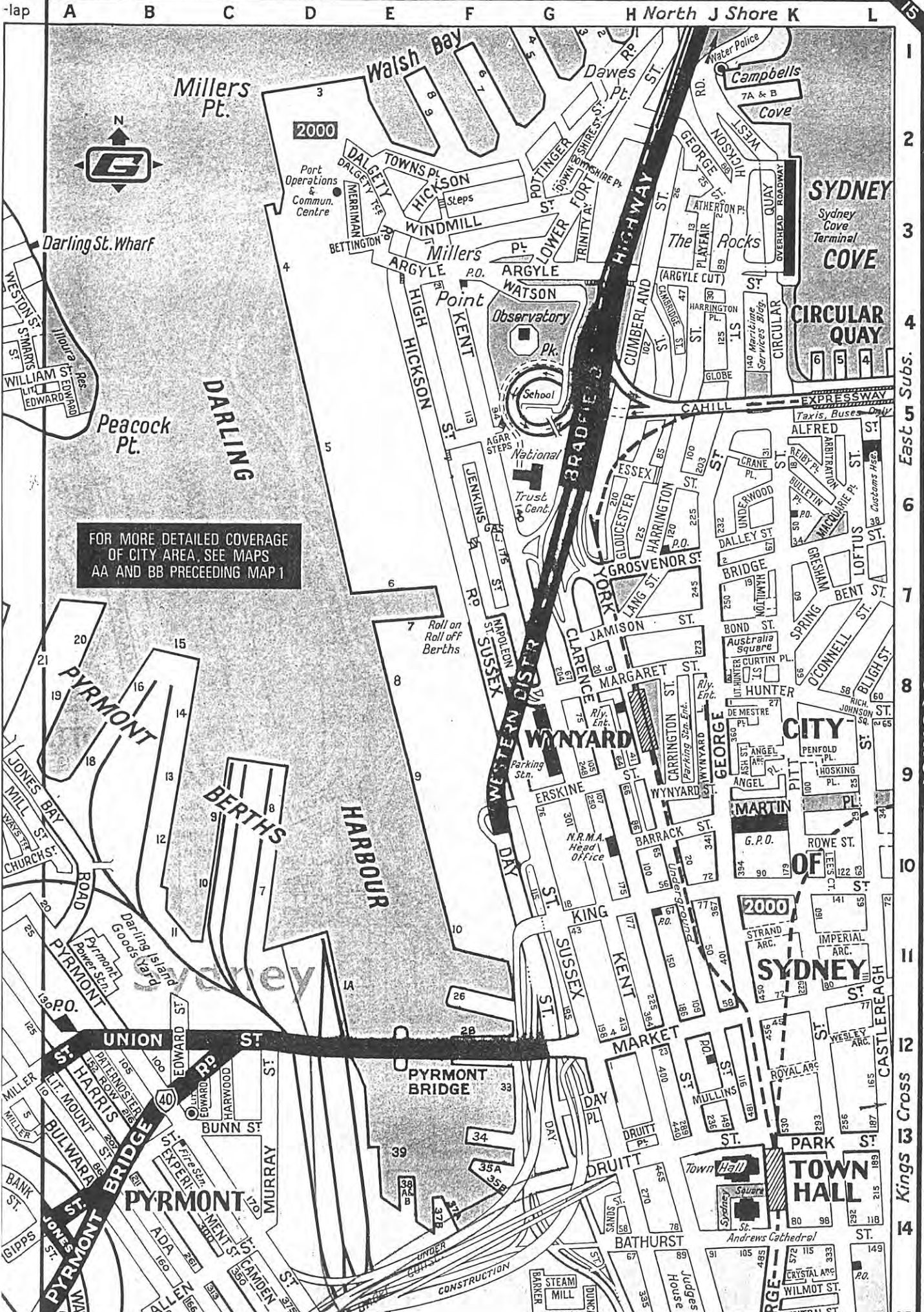
Guests assembled aboard the *Matilda IV* moored at the north-eastern side of the bridge for pre-function refreshments then proceeded onto the bridge at 2pm for the plaquing ceremony which concluded with a commemorative swinging of the bridge and the singing of "Happy birthday" accompanied by a massed brass band.

Following the cutting of a birthday cake and the distribution of pieces to the general public, a great many people enjoyed the sausage sizzle organised by Robert Aspinall, the operator of the bridge.

The event was well publicised and was covered by TV Channels 9 and 10, the former concluded their evening News with a brief visual report.

ACKNOWLEDGEMENT

The Darling Harbour Complex is Sydney's leading venue for a diverse range of activities and through the efforts of the Darling Harbour Authority, the 1902 Pyrmont Bridge has become an important component of the Complex. The Authority has assembled an experienced and competent group under Events Manager, Johnny Allen, to organise and promote the activities. The Institution of Engineers, Australia, gratefully acknowledges the major contribution they made to the success of landmarking Pyrmont Bridge.



East Subs.

JOINS 3

Kings Cross



Martin Thomas chatting with Jeff Dobell aboard the Matilda IV



City of Sydney Concert Band heralding the start of the plaquing ceremony



Robert Aspinall starting the landmarking proceedings



Martin Thomas speaking for the Institution



Terry Jones speaking for the Darling Harbour Authority



The landmark plaques unveiled

D E T A I L S

The following pages summarise the sequence of actions in organising the landmarking of Pyrmont Bridge, starting at the back of the report through to the draft speech notes.

Draft notes for Martin THOMAS, immediate Past-President I E Aust, for landmarking Pyrmont Bridge on 28 June 1992.

Good afternoon ladies and gentlemen

On behalf of the Institution of Engineers, Australia, welcome to this landmarking ceremony.

The Institution represents all professional engineers, aeronautical, chemical, civil, electrical, mechanical and other disciplines throughout Australia.

It sponsors many committees that provide a forum for each group of engineers.

For the most part, these committees deal with present day activities and the development of new trends.

But progress is founded on the achievements of the past and Australia has a long history of engineering excellence, as exemplified by this magnificent bridge.

The Institution, therefore, is well aware of the importance of its engineering heritage and has a National Committee and 8 Divisional Committees promoting this work.

One of the avenues of promotion is the Australian Engineering Landmarking Programme, designed to draw public attention to the contribution of engineers and their works to the general well-being of the nation.

We do this by placing commemorative plaques on historically significant works, such as Pyrmont Bridge.

Our highest award is that of National Engineering Landmark, and of the 7 awarded to date, 3 are in Sydney

the 1836 Lennox Bridge over Prospect Creek
the 1837 Busby's Bore, Sydney's first water supply
and the 1932 Sydney Harbour Bridge.

The Zig Zag Railway near Lithgow will be plaqued at the end of the year, so Pyrmont Bridge is in good company.

This Pyrmont Bridge was the first electrically-operated swing bridge in the world, and is therefore the oldest. It was built by the Public Works Department starting in late 1899 and opened to traffic on 28th June 1902.

Its construction was necessary because the 1857 bridge was in poor condition. An international competition was held, but none of the 26 designs was considered suitable, so Public Works engineer Percy Allan designed the bridge whose 90th birthday we celebrate today.

The bridge incorporates two distinct components, each of technical significance.

The approach spans are timber trusses deigned and perfected by Percy Allan and they represent the ultimate development of timber truss bridgework in the world. J. J. C. Bradfield of Sydney Harbour Bridge fame, designed the abutment walls.

The swing span is a steel truss and weighs a 1000 tonnes and was one of the largest in the British Empire at that time. But its great innovation was being operated by electrical power. The electrical and mechanical design was done by a Gordon Edgell who later opened Australia's first cannery at Bathurst.

At that time, Sydney's steam trams were being replaced by electric trams and Ultimo Powerhouse was built to supply the power. So Edgell and Allan decided to use General Electric motors and tramway controllers so that spare parts would be readily available.

During the discussion to Percy Allan's paper to the Institution of Civil Enfineers in London in 1907, doubts were expressed about the reliability of operation when using the new modern form of energy.

But history has proved them all wrong and Percy Allan right. The bridge has operated continuously, aparted from a couple of minor stoppages, for 90 years.

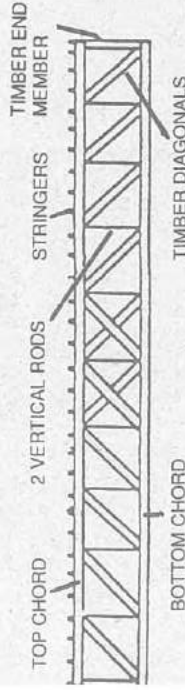
Percy Allan had an illustrious career with the Public Works Department, was Chief Engineer for National Works and was associated with nearly 600 bridges during his 46 years of service. A great many of those bridges are still in use.

On behalf of the Institution, I am delighted to declare the 1902 Pyrmont Bridge to be a National Engineering Landmark.

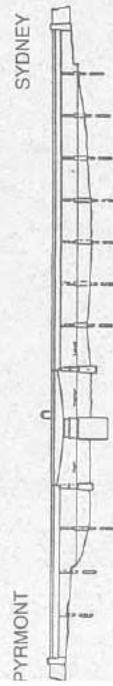
FACTS & FIGURES

- Length: 369 metres
- Original construction of present bridge cost £112,500.
- Fourteen spans make up the bridge, twelve made from Australian Ironbark timber and the two of the central swingspan from steel.

ELEVATION OF ALLAN TRUSS



- Supports made of concrete and Sydney Amber sandstone, from Pyrmont.
- Central support weighs 6,800 tonnes, is 13 metres in diameter and 19 metres deep. 10 metres lie below the harbour floor.



- Takes approximately 60 seconds to open.
- Opens fully to 83 degrees.
- Driven by the original two 50Hp 600V DC General Electric type 57 electric motors.
- Manual drum-type General Electric tramway controllers used to drive the motors.
- Power originally drawn from Ultimo Powerhouse (now Powerhouse Museum).
- Bridge opening required for vessels up to 14 metres in height. For taller ships, Monorail beam is opened with the bridge.

BRIDGE OPENINGS

The bridge opens every Saturday and Sunday at 10.30am, 12noon, 1pm, 2pm and 3pm.

WANT TO KNOW MORE?

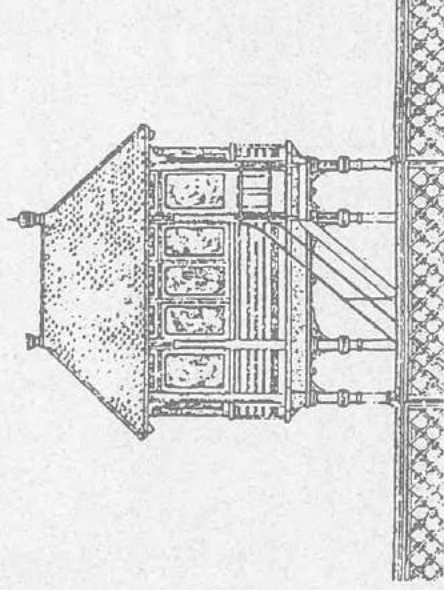
If the gate at the front of the Control Cabin is open, climb the steps and pay a visit.

TOURS

Individual or group tours can be arranged by phoning the Bridge Operator on 018 228 353.

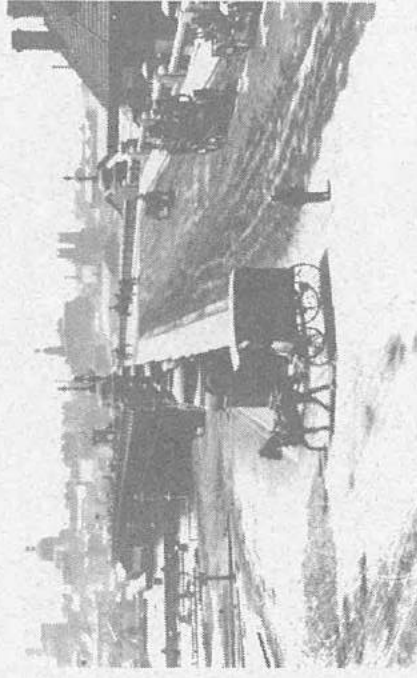
HOW TO GET THERE

- Walk down Market Street.
- Take the Monorail to Harbourside station.
- Take a ferry from Circular Quay.
- Take the Tramway from Central Station or Circular Quay.
- Bring the car and park at one of the car parks off Darling Drive.



Produced by: Darling Harbour Authority
Level 16, 2 Market Street, Sydney NSW 2000
Telephone: (02) 286 0100 Facsimile: (02) 286 0199

THE WORLD'S OLDEST ELECTRICALLY OPERATED SWINGSPAN BRIDGE



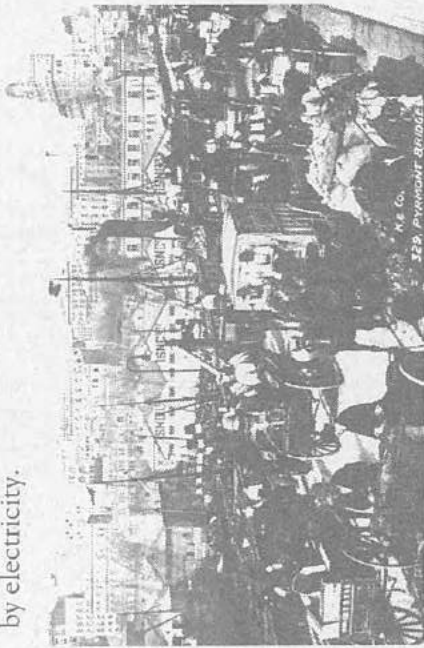
PYRMONT BRIDGE



PYRMONT BRIDGE

A symbol of Australia's industrial history, Pymont Bridge stands proudly at the entrance to Darling Harbour, regularly opening her central steel swingspan to allow leisure craft to pass into Cockle Bay.

This, the second Pymont Bridge, opened to traffic in 1902, using electric power from Ultimo Powerhouse when Sydney's streets weren't yet lit by electricity.



The bridge was designed by Percy Allan of the NSW Government's Public Works Department after an international competition failed to find a winner. Percy went on to design 583 bridges during his career and the timber truss system used on Pymont Bridge became known worldwide as the "Allan Truss".

Also working on the project was J.J. Bradfield, who later designed Sydney Harbour Bridge, and Gordon Edgell who went on to open Australia's first cannery at Bathurst.

As well as being the main road link to Sydney's western suburbs, Pymont Bridge was the gateway to a bustling industrial centre with warehouses, railway yards and an international shipping

terminal where cargoes of wool, grain, timber, coal and farm produce were loaded and unloaded.

With the introduction of container shipping, the southern end of Cockle Bay was no longer commercially viable and the area gradually fell into decline. Freight services were moved and the goods yards closed in 1984.

In the same year, the Darling Harbour Authority was formed and commissioned to redevelop the area as a leisure, entertainment and commercial venue, giving part of the harbour back to the people of Sydney.

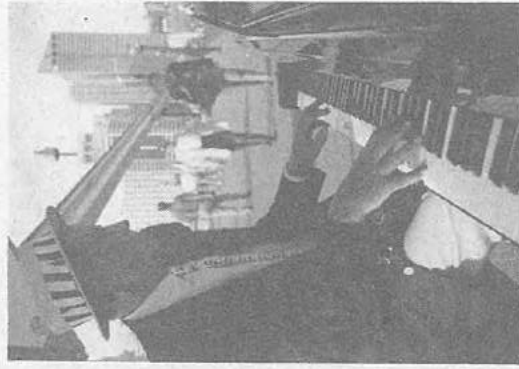
The new Darling Harbour opened in 1988, with Pymont Bridge's swingspan restored to full working order and a new addition – the Monorail running above.

The next chapter in the bridge's life is a ten year restoration programme, returning the bridge to its original colours and preserving this historic monument for future generations.



IMPORTANT DATES

- 1857 First Pymont Bridge opens March 17th
- 1899 Construction starts on new bridge September 6th
- 1902 New electrically operated Pymont Bridge opens June 28th
- 1907 Pymont Bridge acclaimed as marvel of modern engineering at international conference of the Institute of Civil Engineers
- 1981 Pymont Bridge permanently closed to traffic 7th August
- 1984 Shipping and railway terminals close
- Darling Harbour Authority formed — redevelopment plans launched
- 1988 The new Darling Harbour opens. Bridge returns to active service
- 1992 Bridge opens for the 600,000th time
- 2002 Restoration due to be completed for 100th anniversary



Ansett.

THE AIRLINE THAT SUPPORTS YOUR CONVENTION

Meeting :

Date :

Fri 26 June 1992

Jan Bowie Forward info
re Pyrmont Br to
Bob Hughes of 2BL

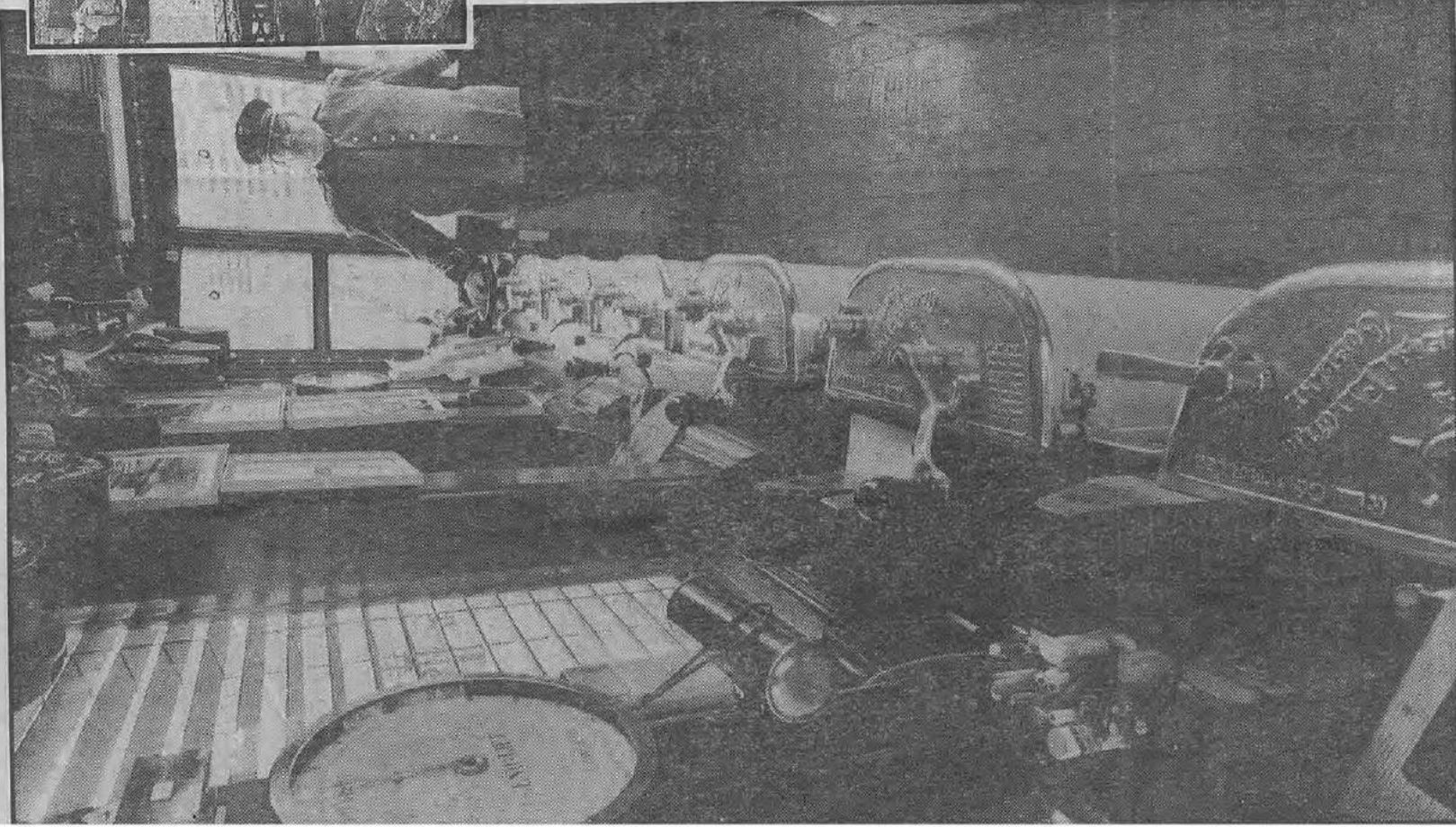
Sat 27 June 1992

Bob Hughes played a tape
of his site interview
with Robert Aspinall,
driver of the bridge.

Are you eligible for the Ansett Meeting Planning Kit?
When planning your next conference, the first step is to PHONE YOUR
CONVENTION SALES CONSULTANT AT YOUR NEAREST
ANSETT CITY OFFICE.

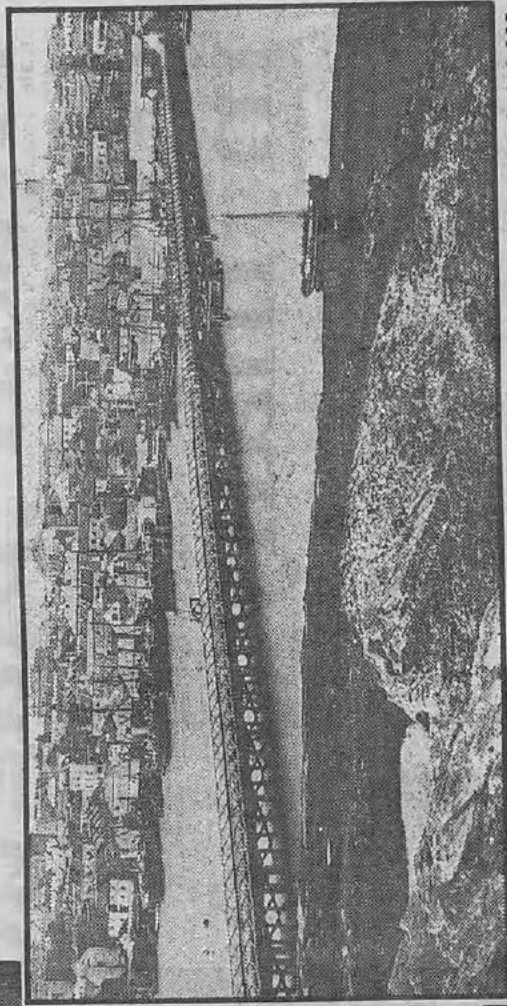
Please re - confirm your Ansett reservations.

Our Cinderella bridge gets a party after all



Mr Robert Aspinall in his bridge house.

Picture by PALANI MOHAN



The first Pymont Bridge ... a threepence toll in 1857 earned £10,000.

By **GERALDINE O'BRIEN**
Heritage Writer

In the graceful Edwardian bridge-house in the middle of Pymont Bridge sits a large iced cake with *Ninety Years, 1902-1992* spelt out in small silver balls.

Mr Robert Aspinall, the bridge operator who made the cake for tomorrow's anniversary of its opening, informs his visitors that there's a bottle and a half of his late father's "1971 ex-POW Commemorative Port" in the cake.

And the other half bottle? "In here," he replies, patting his belly with a grin as wide as his girth.

Last year, incensed that the Harbour Bridge was the focus of preparations for its 60th anniversary, he gave his own birthday party for Pymont Bridge.

"Bugger that," he said at the time. "They're only 60, and they don't even open."

This year, with the full backing of the Darling Harbour Authority (nominally his employers, though Mr Aspinall seems to be a law unto himself) full-scale celebrations will be held from noon tomorrow, with bands, the 600,000th opening of the bridge, an 1,800-piece brass band (led by a conductor perched on a boat in the Harbour), a sausage sizzle and the unveiling of a plaque consecrating the bridge as a national engineering landmark.

The first Pymont Bridge was opened on St Patrick's Day 1857 and was run by a private company which included investors such as the Fairfax and Harris families. It charged a then hefty threepenny toll but, says Mr Aspinall scornfully, "they were making plenty of money (£10,000 a year at the time) but weren't spending it on the bridge, and it fell into disrepair".

A second bridge was mooted and an international competition held, but the eventual design was by Percy Allan of the Public Works Department, with assistance

from Dr J. J. Bradfield, of Harbour Bridge fame, and Gordon Edgell of asparagus fame.

As one of the first, and largest, electrically driven swing bridges in the world, Pymont Bridge was acclaimed as an engineering marvel at a London congress in 1907, although doubts were expressed about its reliability because of the "new modern form of energy": electricity.

The power was generated from the Ultimo Powerhouse (now the Powerhouse museum), the sandstone supports were quarried in Pymont and the ironbark spans came from forests around Nowra.

It was planned to last for 40 years, by which time, the authorities deemed, there would be a new road across the southern end of Darling Harbour.

But the bridge has outlived the planners and Robert Aspinall rightly rejoices in its fine fettle. "It was built when tradesmen had pride in their work and companies hadn't heard of planned obsolescence," he declared.

The Darling Harbour Authority has embarked on a repainting scheme, due for completion in the bridge's centenary year, 2002. This will return the bridge to its original crimson, green and Peruvian gold splendour.

Robert Aspinall may be there for that anniversary, too.

After all, the former Melbourne tram driver turned tea lady for the Darling Harbour Authority mastered the bridge's workings in just 15 minutes on the day he was told he could have the job he had coveted for so long.

And it's no mean feat, he says, to slew 1,000 tonnes of bridge span through 83 degrees in just 60 seconds — without a brake.

He'll do it again tomorrow for the crowds with the same aplomb as he shows when there are only the Darling Harbour pelicans there to watch.

28 June 1902

Don Fraser's notes

Frank Crook
2BL

5.50 - 6pm
Thurs 25/6/92

PYRMONT BR → SYDNEY 1902

S H Br in 1932

S H Br - Don Bradman Aust of hrs
~~PERC~~ PYRMONT Victor of hrs
Allan to bus - Trumper to cricket

WHY IMPORTANT → full fills EH criteria

1. SWING SPAN LARGEST ROAD
BRITISH EMPIRE 12,000 ft²
Nile 10,500 ft²

2. OTHERS STEAM & HYD OPERATED
PYRMONT BY ELEC

Only swing span
imported - pivot
piv & approach TTs
made & built here

3. { ULTIMO PH - PH M
elec trans
trans controls

4. Designed by Percy Allan top br engr 1890-1930

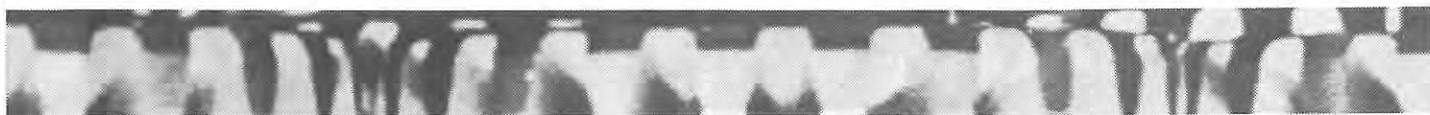
5. 90 yrs virtually trouble free operation
≈ 7,000/year × 90 < 630,000
Smooth & cheap 12¢ per swing
less than 1 minute

6. Short link to inner west subs
Pyrmont, Glebe, Rozelle, Balmain

Frank Crook
2BL
5.50-6pm 25/6/92

OTHER HST BR IN SYDNEY

Glebe Is		1903
Gas works	Parra	1892
Lennox	Parra	1839
Lennox	Prospect Ck	1836
T T	Galdston Gorge	1892
Rly Lattice	Parra R	1886
	Georges R	1886
Whipple truss	Lewisham	1886
De Burghs	Pymble-Ryde	1901



What's On

NOTE: This program was correct at time of printing, however, The Institution is NOT responsible for any late changes made by individual branches.

All meetings are at the IEAust Auditorium, Ground Floor, 118 Alfred St, Milsons Point starting with refreshments at 5.30pm for a 6pm start UNLESS otherwise stated.

Eng Heritage Committee, Unveiling of Institution's National Engineering Landmark Plaque & Celebration of 90th Birthday of Pyrmont Bridge, 2pm, Pyrmont Bridge

Eng Heritage Committee, Installation & Display of Major Objects, Aust National Maritime Museum, Darling Harbour, Ian Bowie 692 2171

Civil Harbour Tunnel Inspection, daytime, RSVP Sarah Lambert 929 8544

Mechanical/Manufacturing Branches, Reliability - Centred Maintenance, Price Waterhouse Urwick Parramatta

Geomechanics Society, Malanjkhanda Copper Project

Illawarra Group, 22nd Conference, Total Quality Management - A Tool for Engineering Excellence, Uni of Wollongong, Judy Gordon (042) 214 086

Electrical/Mechanical Harbour Tunnel Inspection, daytime, RSVP to Sarah 929 8544

Sydney Western Group, Remote Windshear Systems for Aircraft Safety, Uni of Western Sydney Kingswood Campus, Elec Eng Building, RSVP to Dominic Cancian 635 0300

Transport Panel, Medical Aspects of Road Safety, NRMA, 5th Floor, 151 Clarence St Sydney, 5.30pm, Doors locked at 6pm, Parking restricted, Dick van den Dool 260 9633

Electrical Branch, Artificial Neural Network

Young Engineers Harbour Tunnel Inspection, daytime, RSVP to Sarah 929 8544

Standards Australia, Demolition of Structures Seminar, Sydney Marriott, 36 College St Sydney, 1.30 - 5.30pm, Ph 963 4111

June

28

Environmental Eng Branch & Environmental Interest Group of Aus IMM, Strategies for Obtaining Cost Effective Environmental/Development Approvals

29

29

Entries Close for Engineering Excellence Awards, Fiona Ismay 929 8544

30

July 2

4

Society of Military Engineers, Engineering aspects of the Gulf War, Randwick, For more information phone Karen Yu 929 8544

6

Building Science Panel, Microeconomic Reforms in the Building Industry, For more information phone George Vorobieff 934 3484

7

8

Nuclear Panel/Aust Nuclear Assoc, Talk on "8th Pacific Basin Nuclear Conference", For more info phone Doug Ebling 484 3943

9

9

Electrical Branch, New Sensors and Transfusers, Sarah Lambert 929 8544 for info

10

11

Migrant Unemployment Information Session, daytime, Jo Dorman 929 8544

14

15

IMMA/Manufacturing/Mechanical/ Maritime, Exploding the Myths of Boatbuilding, ETAC Silverwater, RSVP to Karen Yu 929 8544

18

Environmental Harbour Tunnel Inspection, daytime, RSVP to Sarah Lambert 929 8544

21

22

BSFA Seminar, The Great Masonry Debate, Masonic Centre, Castlereagh St Sydney, 5pm, Contact Judy Ludlum 264 3140 for more info

23

24

Western Sydney/ Sydney Water Eng Panels, Meteorology for Engineers, 9 - 5.30pm, Contact Tarini Casinader 269 8524

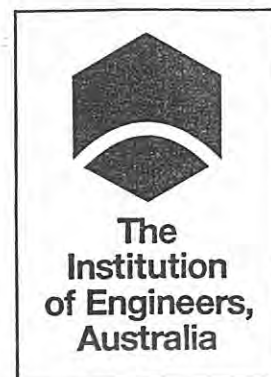
25

28

Civil Panel, Rehabilitation of Hazardous Waste Sites, Venue: Uni of Syd, Civil Eng, Room G1, Jim Vercoe 416 8233

31

Pymont Bridge: National Engineering Landmark



*Presented by the National Committee on Engineering Heritage
in co-operation with The Darling Harbour Authority*

Celebrating the 90th anniversary of the opening of Pymont Bridge, The Darling Harbour Authority has arranged festivities in and around the Bridge, starting at noon. Part of the brief, more formal proceedings will be the unveiling of the Institution's National Engineering Landmark plaque on the swing span at 2.00 pm.

Please join us to sing "Happy Birthday" to the accompaniment of 1842-strong massed bands and to enjoy the sausage sizzle and jazz bands in Tumbalong Park during the afternoon.

Date

Sunday 28th June 1992

Time

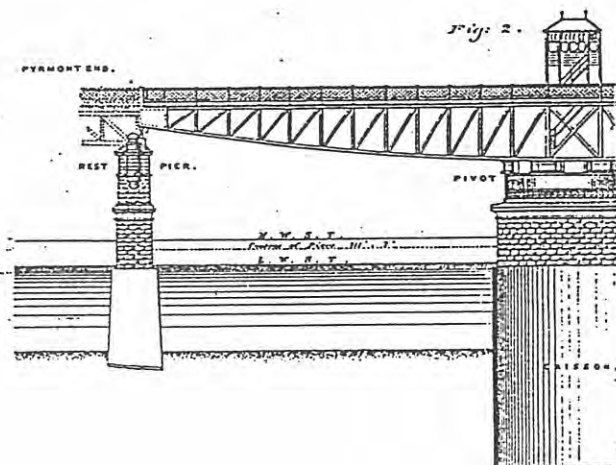
2.00 pm

Venue

Pymont Bridge

Speakers

The speeches will be very brief.



All Welcome!



Water MARK

MAY/JUNE 1992

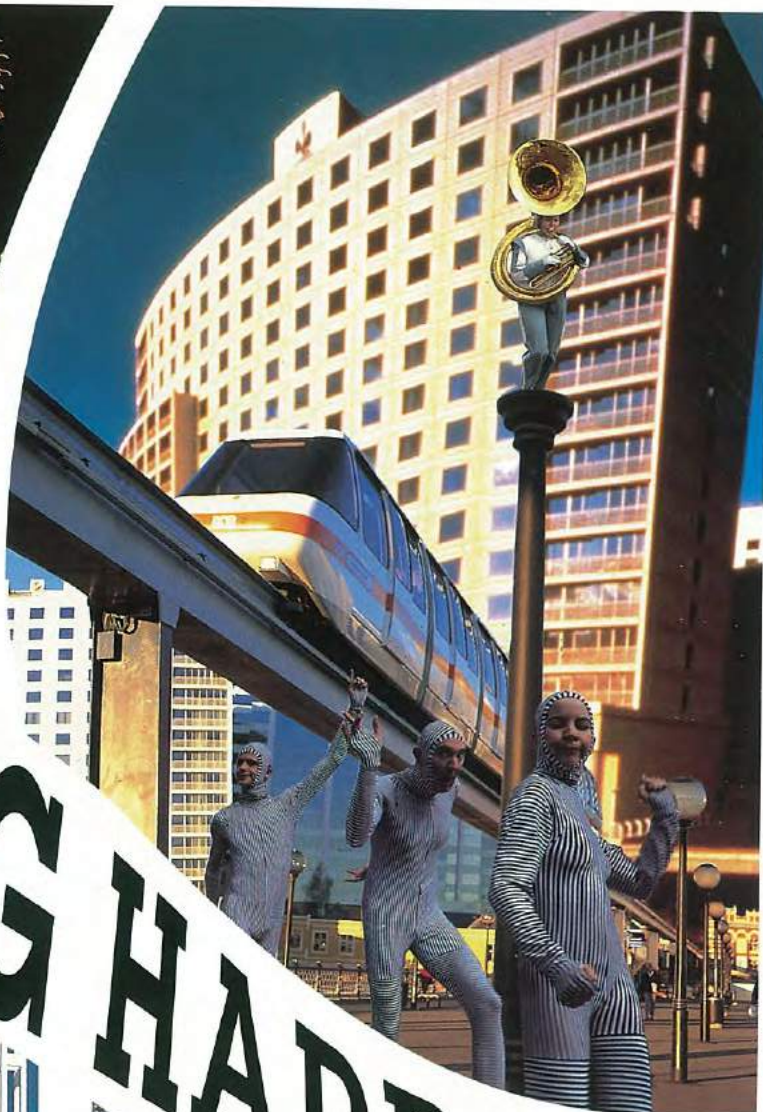
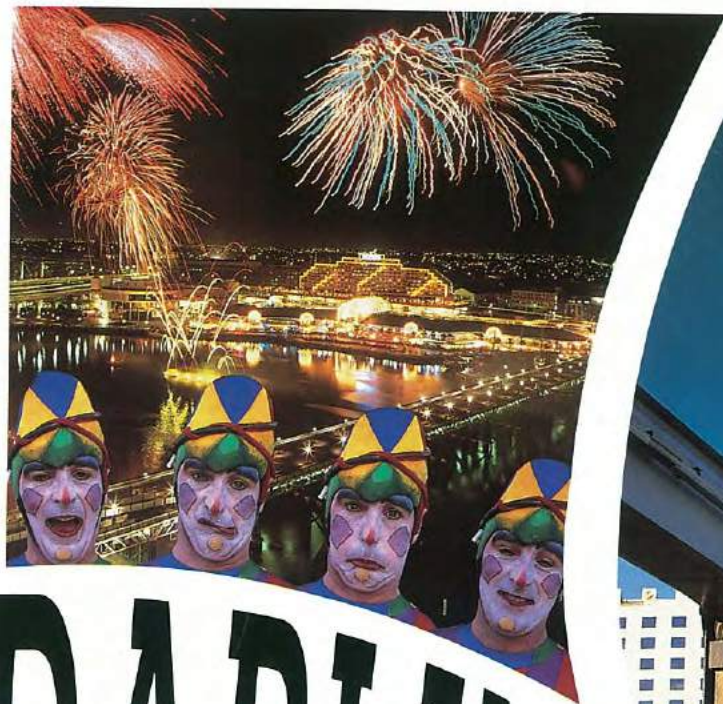
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IN TRANSIT

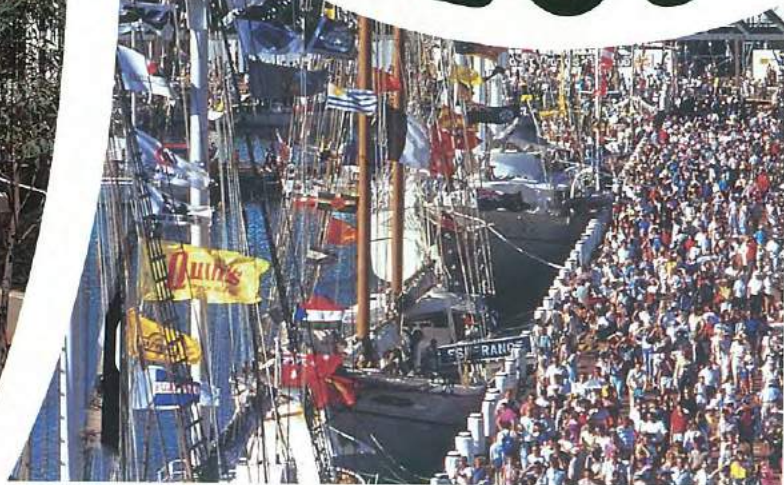
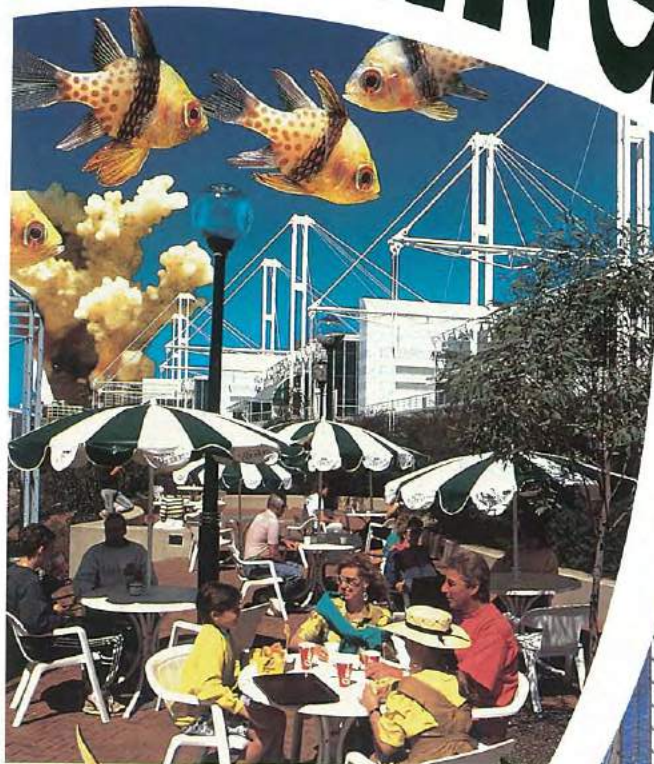
New Directions

Trail Blazing Colour Scheme

THE DARLING HARBOUR AUTHORITY MAGAZINE



DARLING HARBOUR



W H E R E S Y D N E Y
celebrates



PHONE THE INFOLINE ON 0055 20261 FOR EVENTS INFORMATION. COSTS 24C PER 26 SECS (MAX)

water MARK



Development is alive and well at Darling Harbour.

Having been on the staff of the Authority since 1985, I've witnessed many highpoints - pulling down the barricades to open Darling Harbour to the public on 16 January 1986, the Tall Ships visit and the official opening by the Queen in May '88.

I have also witnessed the increasing international recognition of Darling Harbour as a waterfront centre of excellence with an extraordinary record in fasttrack design and construction and high standards of site management and promotion.

We are now, in our fourth year after opening, experiencing another construction rush.

The Market City project should return Paddy's Market to Haymarket by the end of this year and will bring on stream Darling Harbour's first residential development by the end of 1993.

Tower 1 of Darling Park looms larger every day outside my office window and by late 1993 will provide another interface between Darling Harbour and the C.B.D.

The value of these two projects is over \$1 billion.

Add to this the commencement of major works on a residential/hotel complex by Citistate in May this year, the proposal for a lyric theatre in the Goldsbrough Mort Woolstore and the remaining four stages of the Darling Park project over the next eight years and the magnitude of the contribution Darling Harbour is making to the State's economy, through construction activity alone, can be appreciated.

In the meantime, planning proceeds for the remaining sites. The archaeological dig just completed at Little Pier Street, near the Entertainment Centre, will help determine the development potential of this area. Design studies continue for the promenade area between King Street and Pyrmont Bridge and development proposals for the southern promenade are likely to be finalised in the near future.

Development control at Darling Harbour is achieved through a combination of master planning, broad land use controls, design guidelines specific to individual sites and an independent expert Quality Review Committee. It is a formula that has proven a success and set standards which should be used as an example by the remainder of the community. Darling Harbour is a worthy model for major redevelopment schemes in Australia and internationally.

Di Talty

Di Talty
Development and Planning Manager
Darling Harbour Authority

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Watermark*

May/June 1992 Volume 1 Number 2

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Watermark is the journal of the
Darling Harbour Authority
Level 16

2 Market Street
Sydney NSW 2000
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Public Relations
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Published and printed for
Darling Harbour Authority by:

K & D Media Pty Ltd
A.C.N. 003 812 762

Level 8
29-35 Bellevue Street
Surry Hills NSW 2010

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Cover: Photograph by John Gollings taken for the Darling Harbour Souvenir Book.

LATEST HAPPENINGS & Major News

LEGENDS LAUNCH SPORTS CENTRE IN STYLE

Seasoned Sydney social host and restaurateur Gary Szillich turned on a feast of European-style canapes and hor's d'ouvres with champagne at the new Legends Brasserie to toast the official opening of the Darling Harbour Sports Centre in April. About 200 people sampled the brasserie delicacies during the luncheon function hosted by Sports Centre manager and former Davis Cup player Brad Drewett and the Darling Harbour Authority.

Radio and sporting personality Alan Jones spoke to the guests and applauded the outstanding development. He said no other city in the world could have such an outstanding facility and said he was delighted to see the design so superbly Australian

taking advantage of the light and spectacular view of the city and the park.

Authority General Manager Terry Jones officially opened the Centre supplying the city with six flood-lit tennis courts using the most advanced surfaces, basketball, volleyball and netball courts, Legends Gymnasium for aerobics and weight training, an innovative sports store as well as full facilities for corporate, junior and team competitions. Mr Jones told the guests the Darling Harbour Board had determined to complete building projects in the precinct during the past two years. He was proud to see such a magnificent facility completed on time and on budget providing a public park and activity centre for the city. "There is now another high quality attraction at Darling

Harbour which is totally functional but still maintains the standards set by the remainder of the site", said Terry Jones. Brad Drewett paid tribute to Australia's sporting legends and announced that the courts had been named after some of the nation's greats, in particular he welcomed Ken Rosewall to the function and said the championship centre court had been named in his honour. Apart from tennis, the centre boasts flood-lit volleyball and basketball courts. The Sydney Kings and NSW volleyball teams turned up to put on a demonstration and participate in the opening festivities. See page 25 for more pictures of the opening. Sports Centre bookings are on 212 1666.



Centre Manager Brad Drewett with his mentor Ken Rosewall at the official opening of the Darling Harbour Sports Centre.

BRASSERIE AND BAR BY THE LAKE

Gary Szillich, formerly of Rogues and Cauldron nightclub fame, teamed up with Drewett through his tennis enthusiasm and was brought in to operate the swish new Legends Brasserie beside the Lake. Designed by Darling Harbour planners MSJ Keys Young, sweeping circular structures carved in Kauri pine create amazing features in the pro shop against the rich rosewood tones and bentwood furniture inside the restaurant. Sporting touches like the boxing glove covered stools and portraits of Australia's sporting Legends around the walls complete the theme.

'The restaurant, shop and bar have been designed as the focal point for the project. The form and materials used came out of a desire to heighten the contrast between the raw structure of the gym and the softer, inviting objects that define the restaurant bar and shop,' says MSJ designer Peter Willett.

A mezzanine level looks out across the lake at tennis and sports courts or back to the startling wall of city skyscrapers looming only a street away. But for some of the most pleasant 'al fresco' dining in the city, perches on the pontoon on the lake are bound to become exclusive. Seating for 60 diners beneath wide Italian umbrellas with water lapping beneath and the volley of tennis balls yonder will be a select spot from breakfast time into twilight hours. Bookings at Legends are on 212 2232 currently open from 10am to 10pm with breakfast times due to start in a month.



LATEST HAPPENINGS &

Major News

MARINE MAMMAL SANCTUARY



In January 1992 Sydney Aquarium announced the opening of its new Eastwest Marine Mammal Sanctuary, an exciting addition to one of the world's largest Aquariums. The sanctuary has been designed to nurture orphaned, injured and unwanted marine mammals. Its first residents, three Australian Fur Seals, and three Harbour Seals have adjusted well to

their spacious new home, indicated by their playful and affectionate games with each other and curatorial staff. Visitors can view the Seals from either a beautiful outdoor floating oceanarium or from within an underwater glass tunnel. The suspended tunnel with glass walls and floors gives the impression of "walking on water" as Seals swim and play freely underneath your feet.

The current special exhibit features Jellyfish, "the graceful, but dangerous voyagers" of the sea. These creatures with their long trailing tentacles provide a unique spectacle.

The Sydney Aquarium is open from 9.30am to 9.30pm every day of the year, but the mammal sanctuary closes at 5.00pm. ■

THE AUSTRALIAN MOTOR VEHICLE MUSEUM

Yet another attraction to Darling Harbour has opened its doors to the public recently. The Australian Motor Vehicle Museum allows us all a trip down memory lane into the interesting and sometimes bizarre history of the motor vehicle.

The Museum has brought together a wonderful collection of classic cars, motoring memorabilia, examples of today's finest automotive offerings and, in between, a whole spectrum of the wheeled

world. All the great names are represented: Rolls Royce, Jaguar, Ferrari, Aston Martin... Amidst the greats are oddities like the Zeta, an Australian car

built by the Lightburn company as a sideline to their washing machines in the sixties. It had no doors and had to be turned off for the reverse gear to



work. Needless to say it never really took off, although 33 of the 48 cars made did sell! And did you know that the ute, half car/half truck, is an Australian invention, too? The Museum display tells the story. The assortment of Variety Club "Bash" cars and Royal Flying Doctor "Trek" cars include more than their share of oddities.

The Museum is housed in the historical setting of a converted woolshed at 320 Harris Street Pyrmont, a short walk from Darling Harbour. It is open seven days a week from 10am to 5pm. ■

LADY HOPETOUN TO BE RECOMMISSIONED

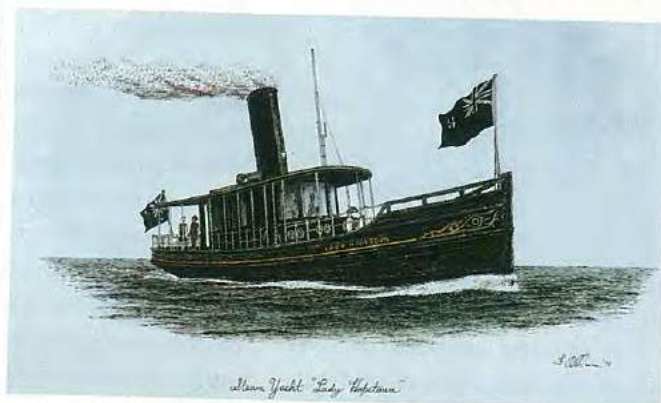
The elegant Edwardian Steam Yacht Lady Hopetoun with her low profile, raked lines and distinctive counterstern has been a familiar part of Sydney Harbour since she was commissioned as the official yacht for the Sydney Harbour Trust (forerunner of the Maritime Services Board) in 1902.

She remained with the Maritime Services Board until 1965 when she was acquired by the Sydney Maritime Museum for restoration and preservation. During the following five years much restoration work was carried out on the upper works in order to make her presentable for the 1970 Captain Cook Bicentennial celebrations. By 1990,

however, it was obvious that the hull was in need of much work and she was taken out of the water for approximately 12 months. Her copper sheathing was removed, many of the frames were replaced, and the engine and boiler were removed for a complete overhaul.

This second major phase of the Lady's life will commence on Friday 22 May when His Excellency Rear Admiral Peter Sinclair, AO. Governor of New South Wales will recommission her.

The ceremony will take place at Sydney Seaport at the eastern end of Darling Harbour at 11am Friday 22 May. The ceremony will be open to the public and will be followed by refreshments for Museum members and their guests on the main deck of the James Craig. ■



POSTER EXHIBITION

The Sydney Seaport is hosting a fantastic exhibition of maritime posters on board the James Craig at Darling Harbour. The posters depict scenes from the romantic, golden age of sea travel between 1912 and 1940 and feature such famous liners as the Aquitania, Mauretania, Orion, and of course the Titanic. Posters will be on sale at reasonable prices and are exclusive to the exhibition.

The exhibition will be on from the 18th - 24th May.



MONORAIL PROMOTION

TNT Harbournlink, Sydney's Monorail operators, have successfully run the first major campaign to promote and emphasise the value of the service they offer to Sydneysiders.

During March and April TNT Harbournlink was spreading the message that, "It's So Easy" - to use the relatively inexpensive parking at Darling Harbour and then travel on the Monorail quickly and in comfort to one or more of the numerous venues and attractions near or adjoining the 3.6km loop.

TNT, as a supporter of co-operative marketing, involved six major hotels - the Nikko, Novotel, Hilton, Metro Inn, Park Royal and Lawson as well as the 19th Hole Golf Complex, in the promotion. The Hotels and the Golf Centre contributed to the fantastic prizes that were valued at over \$20,000 and included a 7 day holiday in Hawaii for two.

In early April as a culmination of the extensive press and radio advertising, Radio Station 2LW

INNOVATIVE YOUNG CHEF HEADS UP NEW RESTAURANT

Michael Moore, the leader of Sydney's brigade of visionary, young chefs has taken up the position of Executive Chef at the Corn Exchange brasserie. Michael comes to the restaurant at the Nikko Hotel in Darling Harbour after establishing an award winning reputation at the Craigend Restaurant, one of Sydney's finest.

Michael was born and trained in England and has worked alongside some of the world's leading chefs in hotels and restaurants including London's Ritz Hotel and The Cafe Royal. Now Michael's experience, creativity, and progressive style has arrived at the tables of the Corn Exchange, the restaurant is set to become a favourite Sydney dining spot.

TOE-TAPPING FUN AT THE POWERHOUSE

Visitors to Australia's most popular, hands-on museum during May and June will witness an exciting line-up of performances by acclaimed musicians, whirl to the sounds of big orchestras and bands, and marvel at the craft of instrument makers from around the world.

Music has strong associations with the Powerhouse as the museum has the largest musical instrument collection in Australia. The Powerhouse offers visitors an exciting experience in addition to viewing 25 permanent exhibitions.

One of the highlights of the season is the unveiling of a Handel manuscript dating back to the mid 1700's. Only three copies were made of the original Messiah by Handel's copyist, and visitors to the museum during May will be able to see the manuscript in a small exhibition on display in the stylish Members Lounge. The lounge overlooks the spectacular Catalina Flying Boat and other aeroplanes in the hall of transport and communication.

Other highlights of the music season include performances by the Early Music Association of gentle Renaissance music and powerful entertainment in the form of Chinese Opera.



Ecuadorian guitarist, Bolivar Sarmiento (above) and a scene from a powerful performance by the Chinese Opera (below), just two of the events coming to the Powerhouse Museum in the coming months



Sydney's much acclaimed violin maker, John Goodschall-Johnson will display his age old craft during Museums Week, while nearby, Hungarian violin virtuoso, Geza Kovacs will tease the tunes of his native home from this famous instrument. For Big Band enthusiasts, the Powerhouse will host another Tea Dance following on from the success of an earlier event and young stars with a musical future will present a concert of classic 'pops' music. Audiences will also be delighted by Latin American guitar music played by Ecuadorian guitarist, Bolivar Sarmiento.

For details of events call the hotline (02) 11600

WATER LATEST HAPPENINGS & Major News

DNYC HAS SPIRIT

Darling Harbour Yacht Club and its associates have come a long way in the past eighteen months. The club has challenged for the America's Cup, built an America's Cup yacht, campaigned the challenging yacht "Spirit Of Australia", unfortunately, unsuccessfully, and also created a supporting yacht club that now boasts more than 17,000 association members.

Club members are now working on the prospects of developing a conventional yacht club and hopefully, take the fantastic start that the 'Spirit' Challenge has created, on to more successful ventures. The 'Spirit' Challenge is now concluding and although it was not successful, all those who supported have a lot to be proud of and Iain Murray thanks you for your support.



JOHN DICKSON'S STEAM MILL EXCAVATED

The archaeological team working at the site of Dickson's Mill have revealed a new chapter in Australia's industrial history.

To the surprise and delight of chief archaeologist, Richard Mackay, excavation has uncovered early evidence of the nation's first steam engine, including foundations of the steam boiler.

'Discovery of the boiler footings is of major importance as it

enables us to understand how the mill operated' said Richard Mackay.

'We are now confident that some of the substantial sandstone walls and chimney flues that we have discovered are part of the original 1815 building opened by Governor Lachlan Macquarie, and are not later 1831 extensions as was first suspected' he said. Physical remains of the steam mill extend beneath the Entertainment Centre courtyard. A trench opened by the archaeological team has exposed additional stone walls,

The location of the excavation and provision of a viewing platform overlooking the site, as well as regular talks and tours, created high level public interest. 'In addition to many volunteers who have come to assist with the excavation itself, we have explained the site and the dig to thousands of visitors' said Richard Mackay. The discoveries have also captured the attention of Sydney's media and were widely reported in television, radio and press on March 17th.

The high level of public interest in the site and the substantial nature of surviving evidence are encouraging the Authority to consider ways in which the remains can be conserved and presented in an appropriate historical display when the site is developed.

The archaeological team now faces four months analysis and cataloguing of the tens of thousands of artefacts and data recorded. This information will assist in writing a new chapter of our history and in planning for the future of this historic place.



VENUE SURVEY

Recent research shows Sydneysiders give the thumbs-up to 'Darling Harbour as the place where Sydney celebrates.' Half the Sydney adults surveyed recently by the Environmetrics Venue Monitor and Newspoll mentioned Darling Harbour as the city's leisure centre. By comparison one in four mentioned going to the cinema

or theatre, the beach or parks. The next most mentioned were the Taronga Zoo and The Rocks by 'one in every five. The special occasions at Darling Harbour which appear most attractive to Sydney adults in general are Jazz Festivals and the Australia Day celebrations. Four in ten surveyed claimed to be likely to visit Darling Harbour next time the occasion was presented, and one in ten claimed they were 'very likely' to attend, representing over 300,000 Sydney adults. 'The results of the survey confirm Darling Harbour as the place where Sydney celebrates' said David Dickson responsible for Darling Harbour Marketing. 'They both augur well for the forthcoming winter BANDEMONIUM Festival with it's JAZZ Weekend, and a challenge for next year's Australia Day celebrations.'

Bandemonium is Back in June



**Don Burrows
celebrates 40 years in
the music industry**



baton of City of Sydney Concert Band conductor Mike Butcher.

As a special highlight the entire band will line up along the inner side of Pyrmont Bridge with Mike conducting on a boat in Cockle Bay to play Happy Birthday to Pyrmont Bridge on the occasion of its 90th birthday.

Bandemonium reaches its climax with a 4th July spectacular when the American Legion Band will be joined by a dozen other visiting bands for the International Music Festival and the final weekend of Bandemonium.

Visiting 80 piece Barber shop group "The Windjammers" will join the bands on Saturday July 4th for a rousing lead up to the fireworks display over Cockle Bay.



Bandemonium comes to Darling Harbour in June with the annual festival devoted to all styles of bands and their music. During the month thousands of musicians will join the Bandemonium on the promenades.

The fun starts on the long weekend in June with Bandemonium Jazz - three days of jazz mayhem with jazz bands on boats, on trains, in restaurants, even jazz on trucks in conjunction with the "Let's Roll National Truck Show". This year's line-up reads like a Who's Who of Sydney Jazz: Graeme Bell, Steve Taylor Brown Band, Gotham City Horns, Jeff Duff, Leah Cotterell, Bobby Gerbert, Geoff Bull, Slide McBride's Big Band and a special concert by Don Burrows celebrating 40 years in the music industry.

On June 20 and 21, Bandemonium goes into Pacific mood when Qantas World of Entertainment flies in bands from throughout the Pacific Islands as part of the Holiday and Travel Show in Darling Harbour.

Then on June 27 and 28 Bandemonium Brass will provide enormous entertainment as the Bandemonium bands attempt to break their own record for the largest brass band assembled in Australia. On Saturday the weekend warms up with a Pipes and Drums spectacular as massed pipe bands are joined by Scottish dancers at Harbourside Amphitheatre. On Sunday bands will come from throughout Sydney and NSW country in an attempt to form a 1842 piece band to mark Sydney's Sesquicentenary Celebrations.

The massed band will perform two concerts at Tumbalong Park under the

**Diverse styles
of music are
represented at
the festival**



Developments

LYRIC THEATRE PROPOSAL ON THE BOARDS

A proposal for Australia's largest stage in a 2,000 seat Lyric theatre capable of staging productions on the scale of Miss Saigon is being considered by the Darling Harbour Authority. The concept, submitted by Titchfield Limited, would preserve the Goldsbrough Mort Woolstore building in Pyrmont. The redevelopment plans include the Lyric theatre, an arts cinema complex of six cinemas with seating for a total of 1,100 people, a 300 room three star hotel and 44 residential apartments. Goldsbrough Mort owners Titchfield have been trying to create a viable use for the building whilst also retaining its facade and heritage aspects for several years. Previous proposals have included hotel and commercial offices. However the present \$120 million scheme for a mixed use development is a truly commercially viable concept according to Titchfield. The building is important in Sydney's history, not merely because of its enormous size, but its significance at the boom time of the colony. At the turn of the century Pyrmont had become the major wool handling port. The railways were expanded with access to Central Railway and the port of Darling Harbour.

An array of woolstores were constructed on cheap land along the escarpment on the western edge of Darling Harbour.

The original Goldsbrough Mort building was built in 1883 and could store 50,000 bales of wool. In 1935 a massive fire destroyed the building, but by the next year it had been rebuilt under the construction methods of the day which included external load bearing brick and internal timber posts and floors. The building remains much the same today. It is eight stories high from Pyrmont Street and has a massive floorspace of approximately 50,000 square metres.

It remains a rare example for its sheer scale and period facades. In the late 1960s wool handling operations in Sydney decentralised to Yennora near Liverpool marking the end of Pyrmont's role as the wool handling centre.

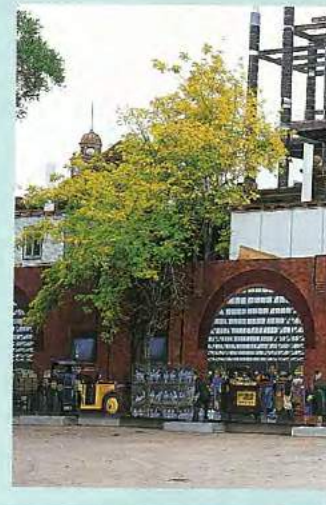
The Goldsbrough Mort building has remained sadly vacant since the 1970s despite several proposals for development from Titchfield.

The Lyric Theatre proposal is timely. There is currently strong interest in the Sydney community in giving Sydney the capacity to stage large international theatre productions.

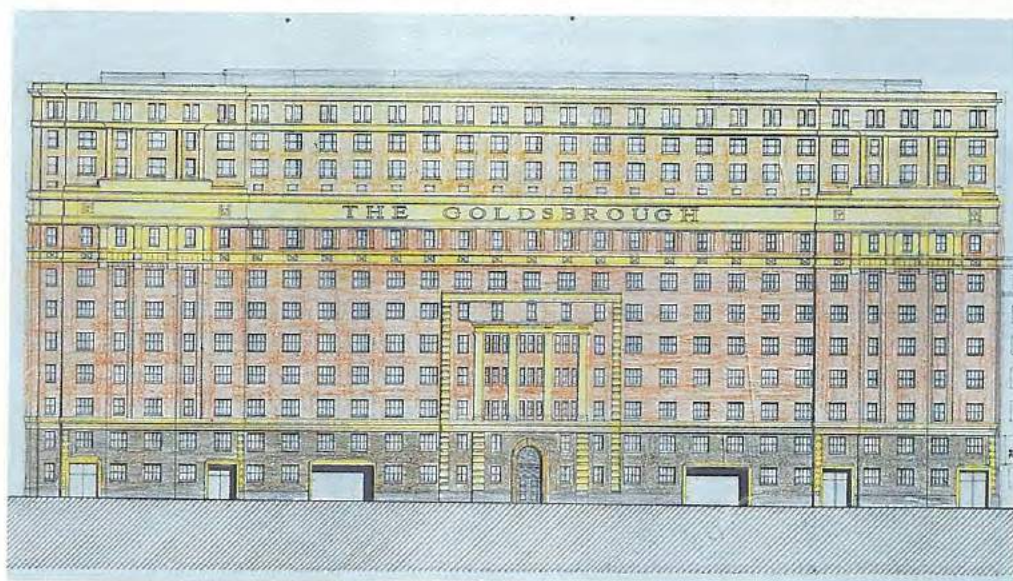
The Goldsbrough Mort Lyric Theatre proposal includes a stage of 1,000 square metres and an orchestra pit for 100 musicians.

The proposals being considered by the Darling Harbour Authority include replacing the interior of the building with reinforced concrete whilst the exterior would be retained and refurbished.

Titchfield are also proposing to add five storeys to the building: two behind the existing parapet and a further three echoing the building's present style.



The theatre would provide a grand entry off Pyrmont Street with majestic views across Darling Harbour to the Sydney city lights. It also has on hand the existing facilities of several thousand convenient car park spaces around Darling Harbour and a network of public transport routes. Titchfield will undertake to complete the project sometime in 1994 if it receives development approval. ■



PADDY'S MURAL IS MAGIC

Sydney's Paddy's Market is as alive and vibrant as ever, even while under reconstruction, thanks to the painstaking artistic talents of 34-year-old Sydney artist Ashley Taylor (pictured left).

Ashley was commissioned by Market City developers on recommendation from the Authority to paint an enormous mural, which stretches the length and height of the hoarding beside the Entertainment Centre.

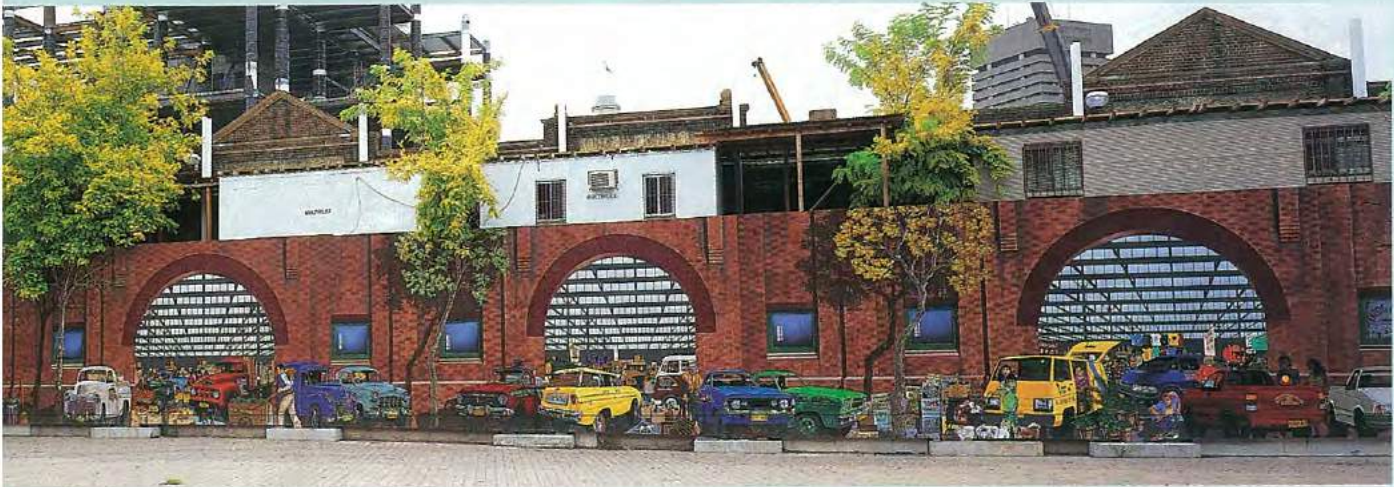
With the help of his fiancée Jess Dowse and other artist

friends along the way, Ashley researched old photographs to develop his images before going to work on the 15 week task.

Since completing the Paddy's Market mural Ashley has painted another for the 19th Hole golf complex, also in Darling Harbour, and one for the Police and Justice Museum in Circular Quay.

Darling Harbour Authority are considering using him for further projects in the area.

Ashley recently finished an exhibition at the Ray Hughes Gallery in Surry Hills where he is a regular artist. ■



MARKET CITY

At the old Paddy's Market site on Hay Street a unique development is well underway on a grand scale.

The Market City Project involves the redevelopment of a site that is fondly regarded by the citizens of Sydney through its past use as Paddy's Market. At the threshold of Chinatown the new development will merge the dynamics of Sydney's enterprise, culture and heritage by permanently restoring Paddy's Market to its original home and providing over 160 new retail stores, food outlets and entertainment facilities within a large multi-level podium building.

The podium stretches over the whole of the site contained within the historic market walls which are being retained as a symbol of the trading heritage of this location.

Above the six level podium will soar a 35 storey residential tower offering over 530

apartments of various styles and sizes.

The lower 10 levels are being retained as serviced apartments for visitors to Sydney with the balance to be sold by strata title to permanent residents.

Residents of the tower will enjoy an exclusive park on top of the podium comprising a restaurant, health club, tennis courts and golf facilities set in over 3000 square metres of landscaped recreation area.

The retail complex has been carefully devised to capture the spirit of its location and to enhance the enjoyment of local as well as international visitors. Paddy's Market is located at Hay Street level and is planned to hold over 800 market stalls including fresh fish and small goods vendors.

Below the market are over 600 car spaces.

Above the market are three levels of retail comprising over 150 retail stores covering 16,000 square metres.

The complex will include a 4,500

square metre department store over two levels modelled on the Asian emporiums where a wide variety of merchants are allowed space to directly trade their often exclusive merchandise under central store management.

The food, produce and groceries retailing will extend from a 1100 square metre Asian supermarket through an area dedicated to unique Asian stores selling herbs, spices, roast meats, imported groceries, etc.

A grand international Food Court will house over 40 express food kitchens selling every variety of popular cuisine with seating for over 1300 diners. The Food Court includes an internal "street" linking the various food kitchens grouped under national symbols to an exciting new concept "The Market Kitchen" where fresh produce can be purchased and cooked to the patron's individual styles and tastes.

Entertainment of visitors to the

complex will also be available through a tavern bar, a 550 seat twin cinema complex and a children's fun parlour.

The entire project is being developed as a true market city with an expected population of over 1000 people and full-time employment for over 600 people and another 1000 on market days.

Patronage is expected to exceed 200,000 people per week when the markets and retail are fully established.

Hours of trading will extend well into the night for the enjoyment of visitors to the surrounding amenities of Darling Harbour and Chinatown. ■



Signs to Make a Colourful Impact

A bold and colourful new directional sign and information system for visitors will be established in Darling Harbour in May, showing a new standard of design aesthetics for the venue while providing a much needed service for visitors to Sydney and Darling Harbour. Brisbane Expo signage consultants Minale Tattersfield and Bryce won the contract to design the system for the Authority. During the past year they have undertaken extensive research on consumer needs and prepared an integrated plan for the 60 hectare site. The system's main component is a series of large finger post signs. But the most striking aspect of the new system is a coordinated rainbow of colours to signify the many and varied zones of Darling Harbour.

Fourteen colours make-up the new range with splashes from bold Chinese Garden red to bright Powerhouse yellow or Aquarium sea blue.



Chinese Garden



Maritime Museum



Powerhouse Museum



Tumbalong Park

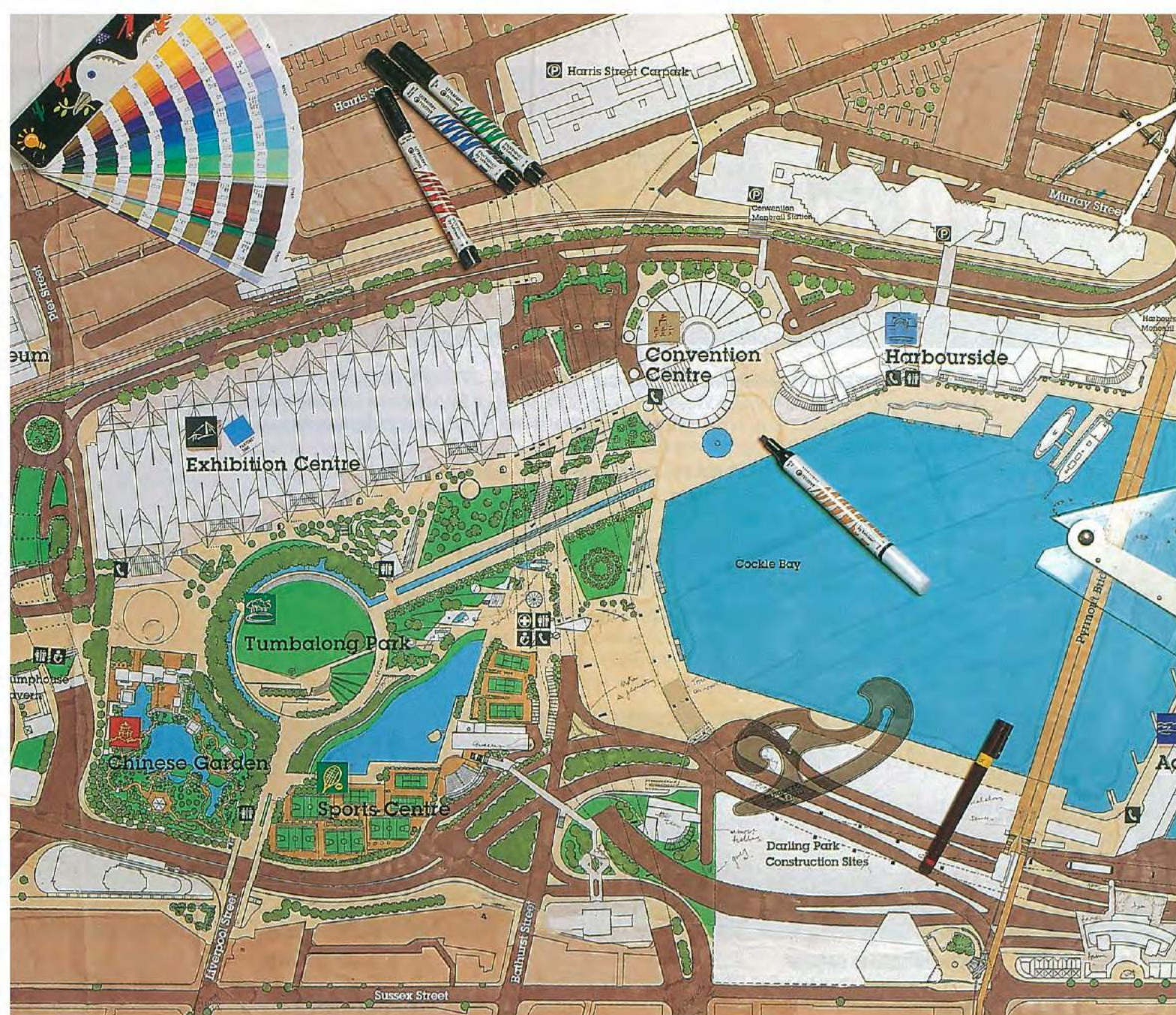


Exhibition Centre



Harbourside





Apart from the distinctive colours relating to localities and attractions, the consultants have prepared a series of pictograms to help establish identity, particularly for foreign visitors. Darling Harbour landscape architect Chris Plummer described the colours and the pictograms (pictured) as light and relaxed. They follow the style of brushed calligraphy. One of the important features of the Darling Harbour area has been the coordination and treatment of the public environment elements, in particular, lighting, street furniture, landscaping, artworks and signage. "This coordination holds Darling

Harbour together as a high quality precinct and visually gives it a special character and identity", says Authority Development and Planning Manager Di Talty. "Since Darling Harbour's opening in 1988 signage requirements have changed, for instance, new activity centres like the Australian National Maritime Museum, have opened. As well, wear and tear have taken their toll on the original signage system. The new signage scheme, retains the master plan concept for the public areas of Darling Harbour and fits into the existing family of Darling Harbour street furniture

such as the specifically designed benches, bins, bollards and light standards", she said. Mr Plummer said the scale of the whole signage scheme was Grand! "As the site is open and linked by large public spaces, the signs need to be identifiable and readable from a distance." A routine signage system has also been incorporated for public facilities like bus stops and car parks with the standard finishes of black with a light buff coloured lettering. Other components of the system of signs will be large illuminated maps of Darling Harbour and information boards for events information and

promotional posters. "The maps had to be designed to be as "user friendly" as possible. Being illuminated and coloured according to the distinctive precinct themes will ensure that they are attractive and under-standable," Mr Plummer said. He added that the Authority was considering further steps to reinforce the identity of the area by marking borders and gateways with festive signage. Mr Plummer said the consultants report had looked into these areas and they were something the Authority would investigate when the perimeters of the precinct were completed. ■



Darling Harbour Enterta

May 1-3

HERITAGE WEEK, TRANSPORT THROUGH THE AGES

Darling Harbour celebrates Heritage Week and its 4th birthday with a fine exhibition of heritage transport including horsedrawn carriages and early motor vehicles on the Chinese Garden Forecourt. Carters Antique Fair is in the Exhibition Centre, Special Pyrmont Bridge openings, May 3.

May 1

OPENING "BIRDS OF PREY" BATTLE OF THE CORAL SEA EXHIBITION

At Australian Maritime Museum.

May 2

CORAL SEA MARCH

Remembering the 50th anniversary of the battle. March through Darling Harbour.

May 2

CHARITY AWARENESS WEEK

Major charities in joint exhibition to the public

May 2-3

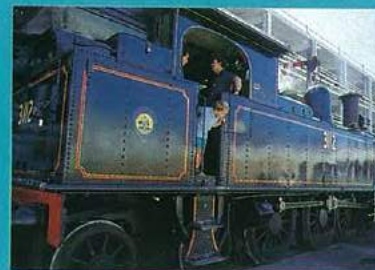
AUSTRALIAN INTERNATIONAL MUSIC SHOW

Musical equipment exhibition open to public. Outdoor concert to mark Australian Music Week on May 3.

May 10

MARCH OF WITNESS

Salvation Army marches to Darling Harbour.



May 7

STRONGMAN SHOW

In aid of the Red Shield Appeal. Show in Cockle Bay.

May 26-29

ENVIRO '92

Annual environmental show in the Exhibition Centre.

May 31

HITTING HOME EXHIBITION OPENS

National Maritime Museum exhibition of the Japanese Midget Submarine which attacked Sydney during World War II and sunk.

June 4-8

LET'S ROLL, NATIONAL TRUCK SHOW

The big trucks roll into Darling Harbour's Exhibition Centre for the public show.

June 6-8

BANDEMONIUM JAZZ

Jazz on boats, jazz on trains, jazz on trucks, jazz in parks, on the bridge - everywhere for the annual Queen's birthday long weekend jazz festival.

June 13-14

BANDEMONIUM SCHOOLS

School bands from across NSW join a giant jam session.

June 14

WORLD'S LARGEST CREPE

The end of the 40 Hour famine will be marked with an event outside the Convention Centre which features the making of the largest crepe.



ment and Events Calendar

- June 18-21 **HOLIDAY AND TRAVEL SHOW**
Major public show in the Exhibition Halls.
- June 20-21 **BANDEMONIUM WORLD OF ENTERTAINMENT**
Performers from the Pacific join the holiday and travel show to perform for Bandemonium around Darling Harbour.
- June 25-28 **AUSTRALIAN BOOK FAIR**
At the Exhibition Halls.
- June 27-28 **BANDEMONIUM BRASS**
Bandemonium breaks out again with an attempt to beat last year's record by getting a 1,842 piece band to play marking Sydney's Sesquicentenary.
- * June 28 **PYRMONT BRIDGE BIRTHDAY** *
- June 28 The world's oldest electrical bridge turns 90 and throws a party. Bandemonium Brass will pay tribute with a bridge concert.
- July 1-7 **INTERNATIONAL MUSIC FESTIVAL 1992**
Bands, choirs and orchestras from around Australia and overseas converge. A concert highlight will be on July 4th with fireworks on Cockle Bay to mark American Independence.



- July 11-12 **BASTILLE DAY**
Novotel Hotel helps Darling Harbour throw a French celebration.
- July 18 **SESQUI PARADE**
A spectacular parade through Sydney to Tumbalong Park.
- July 19 **SESQUI FOUNDATION WEEKEND CELEBRATION**
Concerts, fireworks and a party to celebrate Sydney's Sesquicentenary.
- July 25-26 **FIESTA '92 - SPANISH FESTIVAL**
Sydney's Spanish community salutes Spain in the opening of the Barcelona Olympics with food and festivities.
- July 26 **DIABETES WEEK FINALE**
Work-out for Diabetics in Tumbalong Park.
- August 1-9 **AHOY! MARITIME FESTIVAL**
Water events, maritime parades and performances.
- August 1-9 **SYDNEY INTERNATIONAL BOAT SHOW**
Annual show in Exhibition Halls and on Cockle Bay.
- August 15-16 **TRIPLE O SPECTACULAR**
The Emergency Services combine for displays, concerts and events designed to portray their role.





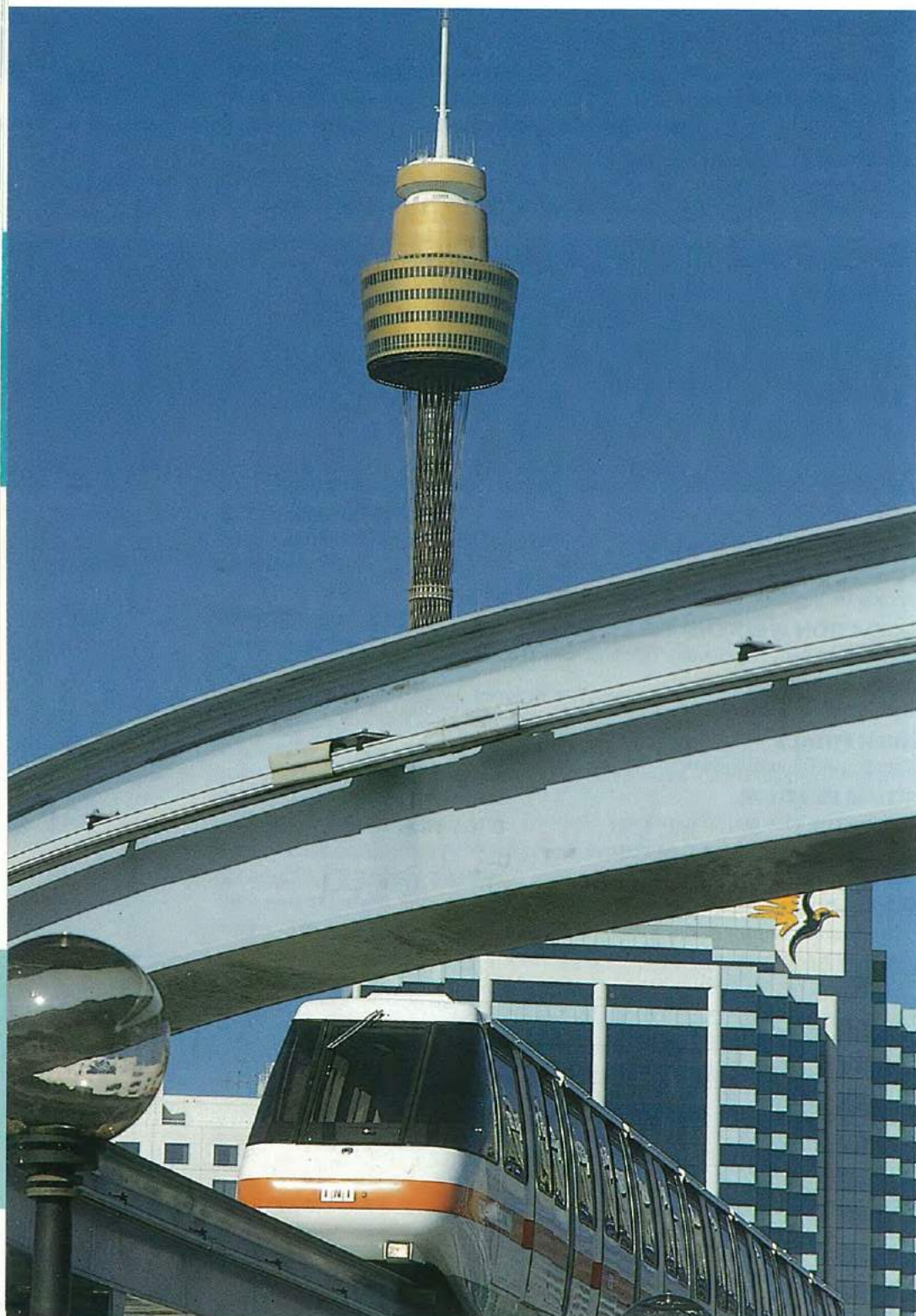
Getting There

By Geoff Sheldon

It's easier than ever to make your way to Darling Harbour with improved transport links, even better parking for special events, and new maps and signage to guide you.

There will be more than 800 events at Darling Harbour this year. Most of them will attract crowds of tens of thousands. Regardless of how many people there are, they all have to get here somehow and they all have to get home again - by bus, train, monorail, ferry, car or on foot.

We already know quite a lot about the pattern of visits, where people come from and how they prefer to travel.



PHOTOGRAPH BY JOHN HALTHIDE



The monorail



About 70 per cent of our visitors are Sydney residents, and most of them come to Darling Harbour several times a year. Two thirds of visits to Darling Harbour occur on weekends and holidays. Domestic and overseas tourists, who make up the other 30 percent of visitors, show a quite clear pattern of visits to other major city icons too, often on the same day. This information is now being put to good use to upgrade our signage for pedestrians, improve our already very good parking arrangements, make better use of the TNT Harbourlink monorail, and create new ferry and bus links to other visitor destinations,

especially those in the city centre and The Rocks area. Darling Harbour is already well established when it comes to looking after motorists. To make road map references even easier, the two major roads that border Darling Harbour on the east and west have recently been renamed Darling Drive (previously known as Merino Boulevard) and Harbour Street (previously Day Street). Along Darling Drive alone there is access to more than 5,000 secure, under cover parking places, charging rates well below the asking price for city-centre parking a few hundred metres to the East. Just a monorail or shuttle-bus ride

away there are several thousand more spaces to be had. When 16,000 guests turned out at Darling Harbour for the party to launch the new Mercedes Benz S class saloons, everyone found a place to park. Peter Weisner at Mercedes had to find around 10,000 car spaces. With the help of Graeme Watson of Wilsons Parking, he didn't have to look far. Harbourside car park below the Novotel provided the first 1,500; another 3,500 were found in the undercover parking stations within walking distance along Darling Drive. Shuttle buses were used to and from two Kent Street city car parking stations, the Kings car park in the woolstore building and,

a few blocks further west, parking spaces at Harold Park. The Silver Passport Mercedes party invitations gave each guest car complimentary "congress ticket" which entitles a guest at a Darling Harbour function to free parking at a nominated location. You arrive, park your car under cover, hand your congress ticket to the cashier, and receive a special card that lets you come and go through the car park boom gates, free of charge, for the next 24 hours. Function organisers can arrange congress ticket parking for almost any event at Darling Harbour. Guests or conference delegates can be sent an identification card well in advance.



And speaking of parking, the TNT Harbourlink monorail is not only the perfect way for visitors to the city to take advantage of low-rate Darling Harbour parking, the 3.6 kilometre loop also links a number of city parking stations to Darling Harbour. Monorail stations are well located for parkers at the Queen Victoria Building and the Hilton for example.

The monorail is now realising its potential as an integral part of the Darling Harbour access network, especially for tourists. Monorail stations have now been set up as tourist information centres. At any monorail station, visitors can get maps, tour brochures, details of Darling Harbour events, as well as advice on how to get around.

The monorail is an easily recognisable Sydney feature for the 30 per cent of visitors who come to Darling Harbour as tourists. As a clear link between Darling Harbour and the city, it plays an important role in letting international visitors, especially, know just how close Darling Harbour is to Sydney's other must-visit attractions.

Darling Harbour Authority Marketing Manager, David Dickson, said that some international visitors have an unclear picture of just where Darling Harbour is.

"A lot of the photographs used in tour brochures show Darling

Harbour viewed from the city against the fairly nondescript low-rise backdrop of Pyrmont. Yes, what you see in the foreground is exciting, but it could be located almost anywhere," he said.

"The photography we're making available now for tour brochures shows Darling Harbour from a quite different angle. We set up the cameras in the south west corner, looking across the top of the Exhibition buildings and Harbourside Festival Marketplace, over Tumbalong Park and Pyrmont Bridge, with the city skyline and the Harbour Bridge as the backdrop.

"One look from that aspect and no-one could fail to recognise Darling Harbour as smack in the heart of Sydney.

"The transport and access strategy we're introducing is all about bringing together Darling Harbour and the other major city destinations. Visit one; visit all."

Small wonder then that from its place on the harbour in the harbour city Darling Harbour is now taking greater advantage of the network of harbour ferry services. State Transit ferries on the Balmain and McMahon's Point route already provide a regular service from Circular Quay calling at the Aquarium wharf. The Matilda Ferry also plies between Harbourside Festival Market Place and the

Quay. The new Rivercat ferries, 'Dawn Fraser' and 'Betty Cuthbert', launched late in March, will be able to bring passengers right into Cockle Bay.

The two Rivercats are used mainly on the morning and evening peak hour runs between Circular Quay and Meadowbank on the Parramatta River. During off-peak hours, they will be the ideal craft for special sight-seeing cruises into the more secluded reaches of the harbour. To the west of the Harbour Bridge there are some beautiful waterways and fascinating historical sites seldom seen by tourists. The Rivercats will be able to pass under the low bridges that have kept taller craft from discovering some of the harbour's best-kept secrets.

There are plans to commence

Rivercat cruises that will call at Cockle Bay in Darling Harbour and all the tourist destinations of the harbour like Taronga Park, the Quay, Cameron's Cove at the Rocks and Man-o-War Steps at the Opera House. From there, where would you like to go? Under the Spit Bridge into Middle Harbour; under Pyrmont Bridge or Glebe Island Bridge? The whole harbour is open to the Rivercats.

The Rivercats also have an exciting role to play in Sydney's bid for the Olympics. They will be able to call at Cockle Bay to provide a fast and efficient shuttle service between Olympic event venues at Darling Harbour and the Olympic village at Homebush Bay. More on the Olympics in the next issue of Watermark.



PHOTOGRAPH BY JOHN COLLINGS

The 19th Hole

Golf has joined tennis as a Darling Harbour lunch-time favourite. The revolutionary 19th Hole complex enables players to break from work for a quick round at lunch and still get back to the office.

It is a totally new concept in golf for Sydney. Already it is attracting 200 people a day to use and check out the facilities. It opened in January this year adjoining the Novotel Hotel.

Resident golf pros David Merriman and Dennise Hutton are very excited about the good response they are receiving from the Sydney city business community and from fellow professionals.

When Brett Ogle visited recently he described the 19th Hole as "an awesome complex".

Minutes from the heart of the city and with spectacular views, the 19th Hole offers outdoor and undercover golfing facilities including more than 20 practice driving bays, two nine hole putting greens, special bunker and chipping facilities, a clubhouse and entertainment areas.

Showing the correct grip – a lesson with David Merriman

Added to these is the advanced "Swing Laboratory" teaching facility and the exciting IN-Golf Simulator which allows golfers to play some of the world's best golf courses like Pebble Beach on the giant screen.

Merriman says the "Swing Laboratory" is the perfect modern teaching tool. Merriman and Hutton carefully examine a golfer's swing via a three way video system that can freeze frame each motion. Their comments are recorded on the video so the golfer can practice at home and correct swing faults with the teaching drills also recorded.

"The Swing Laboratory enables any golfer to discover their own ideal golf swing and develops an eye and hand awareness of the golf club through impact", says Merriman.

The response has been excellent from novices through to leading amateurs and professionals according to Merriman. Colin Field, Ken Trimble and Brett Ogle have all tried out the range.




Apart from running regular competitions on the green, the 19th Hole is catering to an increasing range of corporate functions including recently the Whitsunday's "Island" promotion, A Police Day for all Sydney police units in late April and a CBD leasing managers luncheon and golf afternoon.

A limited number of memberships are now open and offer advantages such as deals on parking and monrail travel as well as discounts on the use of the facilities.

"Our aim at the 19th Hole is to fulfil the needs for achieving a higher standard of golfing excellence," says Merriman. The complex is situated next to the Novotel Hotel at the Convention Centre Monorail Station in Darling Harbour and is open daily from 9am to 9pm.






Pymont Bridge Celebrates

Pymont Bridge, the world's oldest electric swing bridge, will celebrate its 90th grand year with a special present from the Darling Harbour Authority - a birthday suit.


On June 28th almost 2,000 musicians will play happy birthday from the bridge as festivities for Heritage Week begin. But more importantly marking the remarkable age of this fully operational Sydney landmark will be the start of repainting work that will restore Pymont Bridge to the original colours it wore on the festive day it opened in 1902.

Darling Harbour Authority commissioned extensive heritage research and analysis to discover the bridge's colourful history. The bridge will again be bold in its coat of deep crimson with Peruvian gold lattice work and Brunswick green balustrades.

**Commerce on
Pymont Bridge
c. 1902.**



**The 'Admiral' on the
bridge - Robert
Aspinall**



**The Pymont Bridge
opening ceremony,
28th June 1902.**



Pymont Bridge is a monument to Australian engineering achievement at the turn of the century. When thousands of people turned out in 1902 to witness its official opening by Governor Rawson no one would have predicted that the new source of electricity from the Ultimo Powerhouse would enable it to operate until 1992. But the design was quickly lauded internationally for its scale and efficiency.

The original Pymont Bridge, which opened in 1857, was operated by a private business as a two lane timber toll bridge connecting city warehouses with the western suburbs. A manually operated swing span allowed ships access to the important port of Darling Harbour.

In 1884 the NSW Government bought the bridge for 52,500 pounds. Shipping and road traffic were increasing dramatically in the new colony

so the Government held an international competition for a design of a new bridge.

Parliament accepted a design by Percy Allen of the NSW Public Works Department. Construction of the new Pymont Bridge started on September 6th, 1899.

Allen considered Pymont Bridge to be his finest work. His timber truss system was to become known internationally as the Allen Truss.

Working with Allen on the engineering calculations for the bridge was Dr J.J. Bradfield, who later designed Sydney Harbour Bridge.

The chosen design was the first electrically-operated swing bridge in the world, it cost 112,500 pounds to build. Gordon Edgell designed the electrical/mechanical components and later went on to open Australia's first cannery at Bathurst.

Pymont Bridge was extremely

large for its time, with 160sqm greater area than any bridge in the United Kingdom. Heritage architect Howard Tanner, in his recent report on Pymont Bridge said, "...the advent of the new bridge, which was built after years of discussion, a competition, and which used the latest technology, occupied a place of special importance in the social and economic life of the city."

"At a time when engineering projects of colossal enterprise and initiative emanating from Europe and the United States were almost commonplace, Pymont Bridge was the subject of intense international interest and subsequent commendation at the 1907 Conference of the Institute of Civil Engineers in London," says current bridge operator Robert Aspinall.

Doubts were expressed about the use of this "*modern form of energy, electricity*," he added. Many tests were done to evaluate this electrical energy. In one test, on August 9th 1903, the swing span opened in just 30 seconds - much faster than the newly completed Tower Bridge in London. One complete cycle of opening Pymont Bridge, including the gates and end lifts cost less than one penny worth of power. In its first four years the toll free bridge cost 83 pounds to operate for 24,610 openings.

Many local companies contributed to the construction of the bridge, including Saunders Quarry of Pymont for the Sydney Amber sandstone and Marrs Engineers of Pymont for the iron work.

Technically the bridge was innovative in its direct use of electric power for the operation of the swing span; one of the largest and heaviest in the world at that time. Whilst the use of timber in the approach spans was questioned, the refinements to the 'Howe Trusses' by Allen were copied on many timber structures throughout the world.

"The bridge, in its 90th year, remains an eloquent testimony to the confidence and technical expertise of the young nation," said Mr Aspinall, who has researched records of over 600,000 openings for Pymont Bridge and claims it is in no danger of stopping working.

Pymont Bridge was restored sufficiently in the 1980's for the opening of Darling Harbour to the Public on January 16, 1988. The remaining restoration work, including the repainting, will preserve this monument at Darling Harbour standards for future generations of Australians and visitors to admire and use.

Sydneysiders are invited to celebrate 90 years of a great Australian on June 28th on Pymont Bridge. ■





The Maritime Museum

By Bill Richards

Generations of children have learnt that Captain Cook, the great navigator, charted the Pacific Ocean - but who knows about Mrs Cook's map? James Cook's wife, Elizabeth, saw little of the explorer in the last twelve years of his life when he made three voyages to the other side of the world. After his death in Hawaii in 1779 Elizabeth, at home in England, delicately embroidered a map of the Pacific showing all of her husband's 'tracks' across the ocean. Today that embroidery 37 cm square, is framed and on view along with a host of other treasures in the Australian National Maritime Museum at Darling Harbour. Don't miss it; this museum is a magnificent place to visit,

whatever the weather.

Its land based exhibition, housed in the soaring white building at the western end of Pyrmont Bridge, tells fascinating stories of Australians and their links with the sea. And outside on the water, moored at its two wharves, the Museum has a diverse fleet of twelve historic vessels.

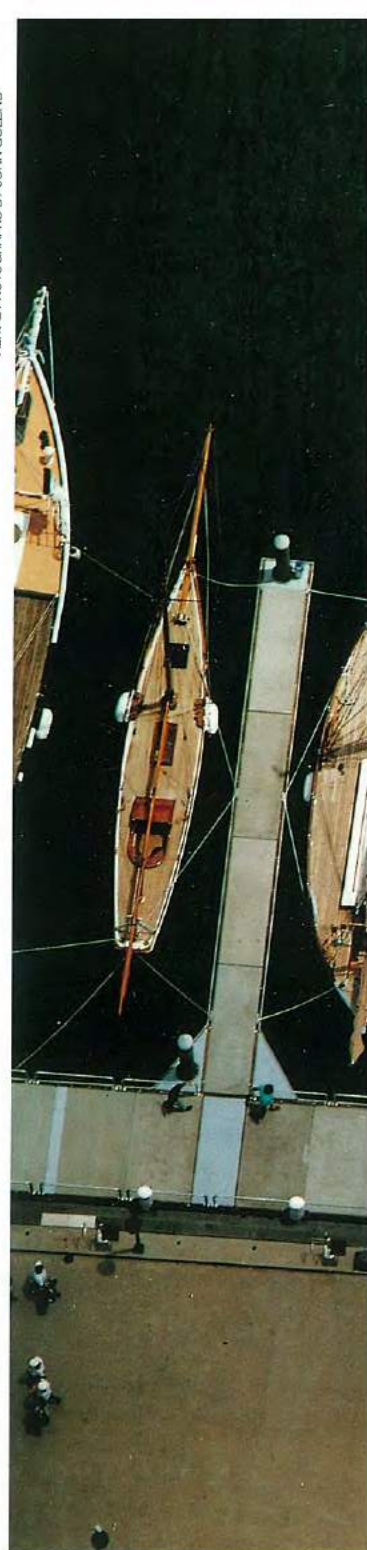
The Australian National Maritime Museum was opened by the then Prime Minister, Mr Hawke, on 30 November 1991. Its scale and the quality of its exhibitions quickly drew national and international acclaim: US President George Bush, Her Majesty Queen Elizabeth II and the Duke of Edinburgh all paid official visits in the first three months.

AERIAL PHOTOGRAPHS BY JOHN COLLINGS

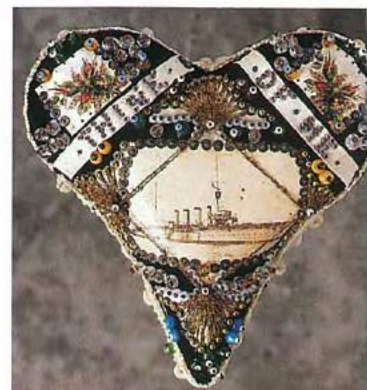


The Australian National Maritime Museum

AERIAL PHOTOGRAPHS BY JOHN COLLINGS



Pincushion made by an HMA Sydney Sailor c. 1800's





The museum building was designed by award-winning Sydney architect Philip Cox. Its towering roofline, which slopes down towards the harbour through a series of curves resembling long rolling waves, is tall enough at 38 metres to accommodate America's Cup winner Australia II fully rigged and an ex-Navy Westland Wessex helicopter suspended "in flight" from the ceiling. There are six exhibitions on the

maritime themes Discovery, Passengers, Commerce, Navy, Leisure and Australia-USA: Linked by Sea. These include some 2,500 individual objects, all illuminating some aspect of Australia's sea heritage. Among the most popular items since the opening are a section of the stern post from Captain Cook's ship Endeavour which finally came to rest in Newport Sound, Rhode Island, USA, not far from the course where

Australia II achieved world fame; Ken Warby's speedboat Spirit of Australia, the fastest boat in the world, since it set the world speed record of 317.3 mph (511.11 km/h) in 1977; and a collection of swimwear and accessories that shows how beach fashions have changed since the late 1900s. Outside, the Museum's vessels range from the 119 metre ex-RAN destroyer Vampire to the 19 metre Vietnamese refugee

boat Tu Do and the stylish gaff-rigged racing cutter Akarana (12 metres) built 1888 in Auckland and presented by the people of New Zealand to Australia as a Bicentennial gift. There is a lot to interest the whole family at the Australian National Maritime Museum, even before they reach the museum shop and the restaurant. Open daily (except Christmas Day), 10am to 5pm. Inquiries (02) 552-7777 ■

Paparazzi



Living it up at the launch of the Mercedes Benz S class saloon.



Music illuminaries provided entertainment night long for the party-goers.



The new Mercedes Benz S class at the launch party for 16,000 guests at Darling Harbour.



A fantastic laser and music show was a highlight of the night.



Dancing up a storm at the multi-million dollar party.



Inspecting the latest Mercedes.



Roving entertainers amused the crowds throughout the night.



Trying out the interior comforts offered by the new S class saloon.



A quiet corner was hard to find.



DHA Gen. Manager Terry Jones with Planning Minister Robert Webster, NSW Tourist Commission's Paul Crombie and DHA Marketing Manager David Dickson at the launch of the Darling Harbour souvenir book and video.



Powerhouse General Manager Terrence Measham with Carol Jones and Sandra Di Bella of Sly and Weigall.



ANMM's Bill Richards, montage artist Veronica Sive and the Showground's Celia Wade inspect the premier issue of Watermark, the Darling Harbour Authority Magazine.



DHA Board Member Peter Charlton and his wife Jo.



Wesley Mission Director of Communications Ray Hoskings with DHA Events Manager Johnny Allen.



Exhibition Centre Corporate Sales Executive Kerry Johansson and Sydney Aquarium Marketing Manager Bill Monks.



David Hanney, producer of the film 'Shotgun Wedding' (David Hanney Productions) and Kim Steblina.

The Commonwealth Minister for Resources and Tourism, Alan Griffiths (right) at the Australian National Maritime Museum recently with Museum Director Dr Kevin Fewster and a 177 year old figurehead of Horatio, Lord Nelson.



Terry Jones, DHA General Manager presents the Splash! Aquashow trophy to US competitor Dave Reinhart.



Her Majesty, Queen Elizabeth II, at the Australian National Maritime Museum with Premier, Mr Nick Greiner, and the Museum Chairman, Peter Doyle.



Flowergirls make a surprise appearance on the promenade.



Ever popular, Her Majesty, Queen Elizabeth II is greeted with cheers at Darling Harbour.

Paparazzi



David Dickson (Darling Harbour Marketing) and Bruce Miller (The Nineteenth Hole).



Graham Bond ("Aunty Jack") at the Nineteenth Hole's Cocktails on the Green.



The team at the 19th Hole complex. From left to right: David Merriman (Golf Pro), Bruce Miller (Chief Executive), Dennise Hutton (Golf Pro), Steve Westlake (Manager) and John White (Director).



Terry Jones (DHA) and Koos Klein, General Manager of Novotel Sydney on Darling



Lani Sullivan (Novotel Sydney) with Michel Serrano GM of Novotel Melbourne on Collins.



Richard Tucker (Novotel) and David Merriman (The Nineteenth Hole) give The Tjaerborg girls Karina and Kate a few tips.



Trevor Drayton, David Martens (Restaurant Manager), Murray Robson, Gabriel Monnin (Executive Chef), Colin Southcombe (Hotel General Manager) and Phil Ryan at the opening of the Metro Inn Brasserie.



Commander Phil Pumell-Webb (RAN), Mrs Mary Pumell-Webb, Mrs Robert Walls and Rear Admiral Robert A.K. Walls, AM. (RAN) at the Metro Inn Brasserie launch.



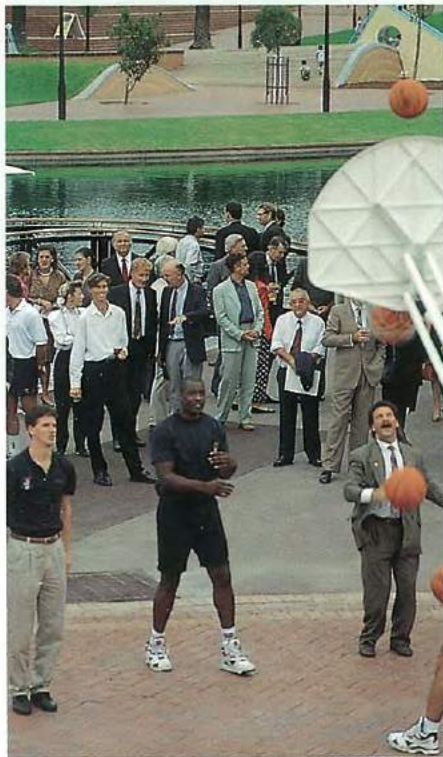
Colin Southcombe (General Manager Metro Inn), Mrs Phil Ryan and Trevor Drayton.



Robyn Rowilson, Hotel Nikko DH's PR Manager aboard the "Lady Street" during the 1992 Ferrython.

Mr Yamashiro, Japanese challenger of the 'GO' world title enjoying the buffet at Hotel Nikko Darling Harbour. He was defeated in the final match by current title holder, Mr Kobayashi from Japan.





Entertaining guests at the opening, Sydney Kings owner Mike Wrubulski takes a shot with his team members Damian Keogh (left) and Kenny McCleary.



Centre tennis pro Dave Falconer with Kobe Steel Managing Director Mr Takahashi at the opening of the Darling Harbour Sports Centre.



Legends restaurateur Gary Szillich.



Ute Szillich with MSJ designer Peter Willet.



Sydney Kings star Steve Carfino and coach Bob Turner enjoy the atmosphere.



Solicitor Phil Madden (left) enjoys the lakeside setting with MSJ designer Nick Hollo.



Inspecting the centre – DHA Board Chairman James Graham (left), with Kevin Jacobsen and DHYC Commodore Graham Rich.

Jo Drewett (centre) entertains on the lakeside promenade.



Enjoying the ambience on the Legends pontoon, DHA Quality Review Committee Chairman Neville Quarry (left), with DHA Maintenance and Operations Manager Robert Garing and MSJ Keys Young's Professor Peter Johnson.



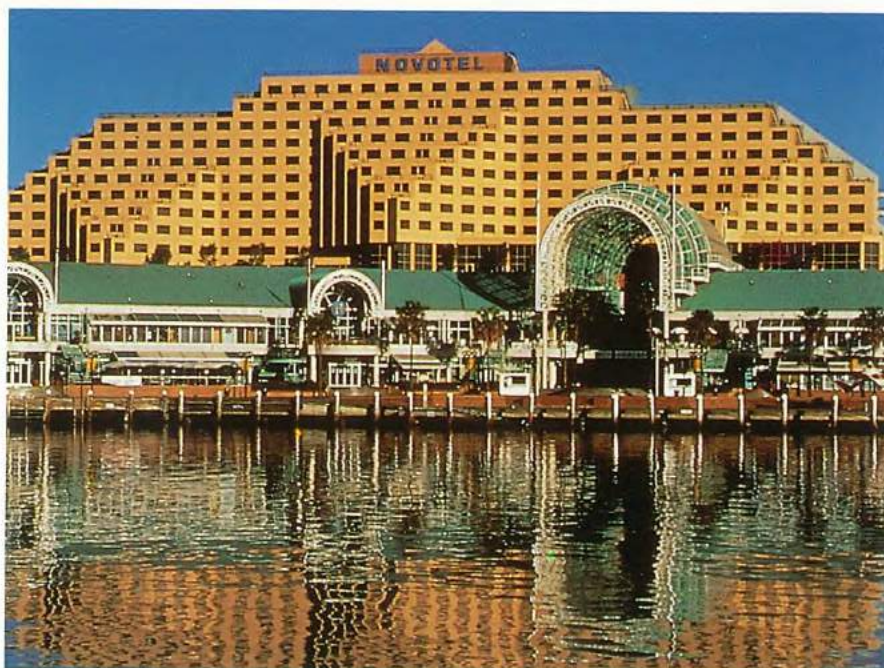
From left: Artist Frank Eidlitz chats with DHA Quality Review Committee Chairman Neville Quarry and MSJ Keys Young Chief Barry Young.



Rose Alexander (left) and Karen Barr attend the opening.



Alan Jones applauded all aspects of the centre.



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NIGHT
AND
DAY**

To begin with, there's our location. Right in the heart of Darling Harbour with its Convention & Exhibition Centre, tourist attractions and shops. And a monorail stop at the door. Plus free guest parking and easy freeway access to all points of the compass. Then there's our vast range of facilities. Which Sydney city hotel can offer night tennis? An afternoon by the pool?

novotel

A morning workout in the gym? We can. And for the business traveller, a fully

equipped and staffed Business Centre. Dining is different too. French provincial with an Australian touch. Inside or on the terrace, surrounded by glorious views. All this with well-appointed, comfortable rooms, with fax capability, and views east to the city or west to the mountains. Last and not least, there's our price. We believe in knock-out value. Not bills that knock you cold.

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PYRMONT BRIDGE 90TH BIRTHDAY PARTY AND PLAQUING AS A NATIONAL ENGINEERING LANDMARK

SUNDAY JUNE 28

- 1200 Jazz Band plays on swing span in centre of bridge
- 1300 VIP guests assemble at boat moored adjacent western side of Pyrmont Bridge.
- 1350 City of Sydney Concert Band leads official party onto Pyrmont Bridge to swing span.
Band forms flanking guard of honour and gates close.
1342 piece big band assembles on southern side of bridge.
- 1400 **Official Function:**
Master of Ceremonies, Bridge Operator Robert Aspinall introduces guests (1 mins)
I E Aust speaker to mention plaquing program, the bridge, Percy Allen and some technical items (3 mins)
DHA speaker to mention social impact of bridge, importance to Sydney and inner western suburbs, DHA policy re the bridge (2mins)
Unveiling of plaques by representatives in unison.
Big Band plays "Happy Birthday". Cutting of cake.
- 1410 Swing span opens to 3 cheers led by official party for 500,000th bridge opening.
- 1415 Swing span closes. End of Official Function
Big band retires to Tumbalong Park.
- 1430 Jazz Band resumes playing for open 'sausage sizzle' on Pyrmont Bridge.
- 1600 Close of event

LOGISTICS

DHA to stage manage official function.

Events staff to provide bands, sound system, lectern, rostrum unveiling mechanism. Notices required either end of Bridge informing public of event.

Bridge Operator to provide sausage sizzle, Pyrmont Bridge model, double decker bus, cake, name tags for VIP's.

PUBLICITY

IE and DHA to provide publicity through usual channels.

DHA to prepare handout leaflet with assistance from **IE**

INVITATIONS

IE to their representatives, **DHA** to official guests, Robert Aspinall to own list.

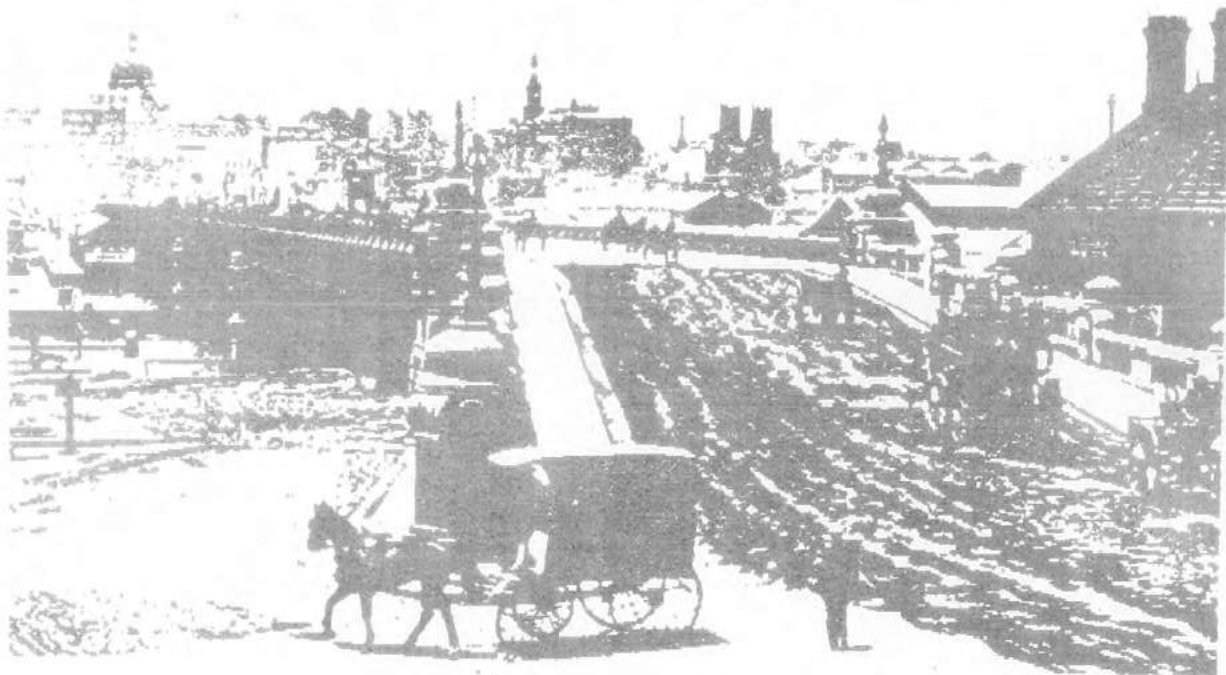
DARLING HARBOUR AUTHORITY

cordially invites

Mr. Don Fraser + partner

To celebrate the

90th Birthday of Pyrmont Bridge
and
Plaquing as a National Engineering Landmark



Sunday, 28 June 1992 at 1pm

Guests to assemble on "Matilda II" moored on the eastern side of Pyrmont Bridge.

At 1.50pm, a marching band will lead the Official Party onto Pyrmont Bridge.

Official Function will commence at 2pm on the Swing Span of Pyrmont Bridge.

RSVP by 24 June: Diana Shearin - Darling Harbour Authority - 286 0100

PLAQUING PYRMONT BRIDGE

28 JUNE 1992

REPRESENTATIVES FROM THE INSTITUTION OF ENGINEERS, AUSTRALIA.

In addition to the names supplied by Ian Bowie by FAX on 11 June, the following are also part of the Institution's official group

Mr. Martin THOMAS, Immediate Past President, will represent the President of the Institution and will be the Institution's spokesman at the ceremony. His business address is 9222 666 Merz Australia Pty Ltd, Private Bag 820, Milsons Point, NSW 2061 FAX 957 1474

Mr. Paul HAGENBACH, Chairman of Sydney Division's Committee for Engineering Heritage, and representing the National Committee on Engineering Heritage. His address is "Karrindee" via The Rock, NSW 2655

974 5088 (H)
Mr. E. G. 'Harry' Trueman, Consulting Engineer involved with the Pyrmont Bridge restoration, Hughes Trueman and Ludlow Pty Ltd, 33 Atchison Street, St Leonards, 439 2633 NSW 2065 FAX 438 4505

Mr. Ian BOWIE, Secretary of the Engineering Heritage Committee, Sydney Division School of Civil and Mining Engineering, University of Sydney, NSW 2006

Prof. Don FRASER, coordinating representative for the Engineering Heritage Committee 14 Derby Street, Vacluse, NSW 2030

1 BRIDGES AND THEIR SUPERSTRUCTURES

D. FRASER

1.1 Introduction

Figure 1 shows that any bridge has a number of inter-connected basic components that have to be assessed and reconciled so as to produce a structure that best suits all the influencing factors that form the inter-relationships. These factors or **CONSTRAINTS** can influence any one or more of the components. They may be complementary thereby reinforcing a particular decision path, or they may be contradictory which hinders decision making. Consequently, the whole system is interactive.

BRIDGE DESIGN IS A PROCESS OF SYNTHESIS, the building up of separate elements of facts, conceptions, ideas, propositions and innovations into a connected whole system.

THE DESIGN PROCESS INVOLVES DECISION MAKING NOT JUST CALCULATIONS as shown in figure 2, and this distinguishes engineering from science. Engineering is not simply applied science.

SCIENCE is the search for knowledge and truths from a quantitative treatment. It **SOLVES A PROBLEM** and provides an explanation.

ENGINEERING uses the accumulated knowledge to CREATE a solution to an OPEN-ENDED, often ill-defined, **PROBLEM**. Indeed, there may be **MANY ACCEPTABLE SOLUTIONS**.

Therefore much of engineering **is an ART**, the skilful execution of learning. This is **PARTICULARLY SO OF BRIDGE ENGINEERING**.



The University of Sydney

SECOND PAGE

School of Civil and Mining Engineering

UNIVERSITY OF SYDNEY, NSW 2006, AUSTRALIA

TEL: (02) 692 2222 INTERNATIONAL: 61 2 692 2222

TELEX: AA74261 UNIPUR

FACSIMILE MESSAGE

DON FRASER
PAGE 2

Transmission details:

DHA

To: Johnny Allen.....
 Attention:
 FAX number: 286 0199
 Document details:
 From: Ian Bowie (Engg Heritage Cttee, Syd Div
 FAX number: Australia (02) 692 3343, International 61 2 692 3343 IEAust)
 Date: 11/6/92
 Total pages: One (including this page)
 Account No: Maint

If there are any problems with the reception of this FAX
 please telephone 692 2136 for retransmission

Suggestions for Pyrmont Bridge invitees:

Mr J. Fullagar, Chairman -- Sydney Division, Institution of Engrs, Aust,
 (John) P.O.Box 138, Milsons Point NSW 2061
 Mr J. Dobell, Director -- Sydney Division, Institution of Engrs, Aust,
 (Jeff) P.O.Box 138, Milsons Point NSW 2061
 Mr P. Dalland, Dalland & Lucas, PO Box 601, Seven Hills NSW 2147
 (Peer) (Chairman Civil Engg Panel, Syd Div IEAust)
 Mr P. Hitchener, Lane Telecommunications P/L, Unit 8/163 Sailors Bay Road
 (Peter) (Chairman - Electrical Engg Branch, Syd Div) Northbridge 2063
 Mr J. Huckson, MSB - Sydney Ports Authority, Private Bag No.5, Maroubra 2035
 (John) (Chairman - Maritime Panel, Syd Div, IEAust)
 Mr P. Edwards, P.O. Box 12, North Sydney NSW 2059.
 (Peter) (Chairman, Transport Panel, Syd Div, IEAust)

Saw 11/6/92

Ian Bowie

The "Branch" is apparently
 inactive.



School of Civil and Mining Engineering

UNIVERSITY OF SYDNEY, NSW 2006, AUSTRALIA

TEL: (02) 692 2222 INTERNATIONAL: 61 2 692 2222

TELEX: AA74261 UNIPUR

The University of Sydney

FACSIMILE MESSAGE

Transmission details:

To: A/Prof D. FRASER STRUCT ENGG
 Attention: 663-2188
 FAX number: 663-2188
 Document details:
 From: IAN BOWIE
 FAX number: Australia (02) 692 3343, International 61 2 692 3343
 Date: 11/6/92
 Total pages: 2 (including this page)
 Account No: MAIN7

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 please telephone 692 2136 for retransmission

I faced this in to Johnny Allen thinking that you were
 going to advise him of Martin T. and Paul directs (and I
 was to look after the other).
 address from
 NCEH list

I was going to send our own letters to these people but
 Johnny Allen said they had a system set up for the
 invitations.

Both addresses and plaque
 to Johnny Allen.

+ Harry Freeman
 Ian Bowie
 Don Fraser

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SCHOOL OF CIVIL ENGINEERING



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FACSIMILE TRANSMISSION

FAX STD: 02-663-2188

FAX ISD: 61-2-663-2188

TO: Ion Bawil

FROM: Don Fraser

SENDER'S TELEPHONE: _____

REF: Plaques Pyrmont Br

DATE: 29-5-92

FAX TO: 692 3343

TOTAL NUMBER OF PAGES INCL THIS ONE: 3

MESSAGE:

Met with DHA group today 11am
Here's the latest arrangements, subject to
some fine-tuning.

Copies for next EHA
meeting?

Don

PLAQUING PYRMONT BRIDGE as a NATIONAL ENGINEERING LANDMARK
Sunday 28 June 1992

Following a site visit by Don Fraser (I E Aust) and Robert Garing (D H A) on Friday 15 May it was agreed that the former would set down some ideas about the ceremony and FAX them to Johnny Allen, the Events Manager D H A. These draft notes are -

at bridge Every Sat & Sun 10-3 018 228 353
Co-sponsors :- Institution of Engineers, Australia and the Darling Harbour Authority

Reference :- "Guide to Australian Engineering Plaquing Programme" pages 7 - 11,
copy with Robert Garing

Location :- on the bridge in front of the control cabin

Time :- *60,000th opening of bridge (log book)*
early to mid-afternoon when the massed band leads people
(and officials ?) onto the bridge

Weather :- no changes - official party moves under the cabin, others use coats etc

Plaques :- 2 supplied by the Institution, a 300mm round bronze plate (the NEL)
already with Robert Garing, and a rectangular information plaque 400mm
long x 300mm deep with wording as per letter with Robert Garing, this
plaque has been ordered

Requirements:- a temporary display stand for the plaques (side by side) and some
means whereby they can be unveiled

EGT & Aspinall had agreed at meet and on sandstone opp each other.
permanent display stand to be built some time later under the stairs
leading up to the control cabin, details subject to negotiation

a platform to raise official party above the crowd and for plaque
stand to be seen

a lectern for speech notes

a P A system

Publicity :- as per the usual channels of I E Aust and D H A

a handout brochure/leaflet to be prepared by D H A (like article in latest
WATER MARK, I E Aust to help with archival material ?)

Invitations :- (a) organised by I E Aust

representative of the President

representative of the National Committee on Eng'g Heritage *Paul Hagenbach?*

Jan Bowie → Chairman of Sydney Division and Branch chairmen

(b) organised by D H A

representative of D H A

representative of Sydney City Council

representative of National Trust

representative of Powerhouse Museum

representative of R A H S

representative of National Maritime Museum

representatives from kindred professional bodies

(c) others ?

+ Bill Allan
Percy's grandson
(via Aspinall)

+ Mr Marr, ironworks under
Cabin etc.

+ Pyrmont & Ultimo Hist Soc

oldest GEE equip in world - & Aust President of GEE
Graham Raymond

Speeches :- welcome by Master of Cermonies (or Town Crier ?)

I E Aust speaker to mention plaquing programme, the bridge, Percy Allan and some technical items (10 - 15 minutes)

D H A speaker to mention social impact of bridge, importance to Sydney and inner western suburbs, D H A policy re the bridge (10 - 15 minutes)

Unveiling :- I E Aust and D H A representatives to do this together

Swinging the bridge :-
 position barriers for safety
 swing the bridge open
 3 cheers for the bridge
 swing the bridge closed

+ cut cake made
 by ^{Robert} Aspinall

Afternoon tea :- band leads officials off the bridge to the venue, DHA to arrange

Photography :- prints by D H A (and video ?)

Other items :- ??



Pymont Bridge NEL plaquing

29/5/92 Meeting at DHA with Johnny Allen,
Robert Aspinall and Sharon Thomas

Overall, happy to cooperate with IE Aust

Supplied programme sheet and
worked through it. - see it for comments.

THE UNIVERSITY OF NEW SOUTH WALES
SCHOOL OF CIVIL ENGINEERING



P.O. BOX 1 • KENSINGTON • NEW SOUTH WALES • AUSTRALIA • 2033

FACSIMILE TRANSMISSION

FAX STD: 02-663-2188

FAX ISD: 61-2-663-2188

TO: Jan Bowie

FROM: Don Fraser

SENDER'S TELEPHONE: _____

REF: Plaquing Pyrmont Bridge

DATE: 26-5-92

FAX TO: 692 2111

TOTAL NUMBER OF PAGES INCL THIS ONE: 1

MESSAGE:

Plaquing ceremony 2 - 2:30 pm, so
nominate 2 pm in all publicity.

Massed bands (approx 1800) will line both side
of the bridge and play 'Happy Birthday'

Then crowd control so as to safely swing the bridge.

Will be meeting DHA's Johnny Allen on
Friday 10:45 am.

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FACSIMILE TRANSMISSION

FAX STD: 02-663-2188

FAX ISD: 61-2-663-2188

TO: Johnny Allen - Events Manager DHA

FROM: Don Fraser I E Aust rep

SENDER'S TELEPHONE: 697 5029 (message 5033)

REF: Plaquing Pyrmont Bridge

DATE: 22-5-92

FAX TO: 286 0199 Phone 286 0100 ~~286 0100~~

TOTAL NUMBER OF PAGES INCL THIS ONE: 1

MESSAGE: Further to FAX of 19th

Permanent location of plaques has already been nominated by Harry Trueman, on standstone posts at western end of bridge. But this does not affect ceremony.

Robert Aspinall says there is already a handout leaflet which he currently gives out to the public

He has invited Percy Allan's grandson Bill, Mr. Marr a descendant of cabin ironwork makers, Graham Raymond to rep General Electric, and Pyrmont/Ultima Hist Soc

The swinging of the bridge at end of ceremony will be 600,000th.

Welcome by MC to introduce people with a direct link with the bridge.

See you next week Don

FAX 286 0199

Events Manager - Johnny Allen
286 0100 (Switch)
away till Monday 25th May.

in meantime we to set out
DRAFT timetable - 2 speeches
requirements - PA
- unweaving table.
serving the bridge -

WEATHER — officials under cover
— others under umbrellas.

Chief Executive
J.D. Enfield AO, FIE Aust, CPEng



15th May 1992

Mr. I.G.Bowie
Hon Secretary
Engineering Heritage Committee
Sydney Division
The Institution of Engineers, Australia
118 Alfred Street
MILSONS POINT NSW 2061

Dear Ian,

PYRMONT BRIDGE - NATIONAL ENGINEERING LANDMARK

I am pleased to formally advise you that your nomination of the Pyrmont Bridge for a National Engineering Landmark Award has been successful.

The Commemorative Plaque Sub-Committee of the National Committee on Engineering Heritage has given the nomination careful and lengthy consideration and the revised wording for the National Engineering Landmark information plaque is now being finalised. This wording will be forwarded shortly for your confirmation.

Yours faithfully,

Ken G. McInnes,
Chairman,
Commemorative Plaque Sub-Committee

cc. Chairman, Board of Engineering
Chairman, National Committee on Engineering Heritage



The Institution of Engineers, Australia

ESTABLISHED 1919 - INCORPORATED 1926
INCORPORATED BY ROYAL CHARTER 1938

SYDNEY DIVISION

ENGINEERING HERITAGE COMMITTEE

EAGLE HOUSE,

118 ALFRED STREET,

MILSONS POINT 2061

TELEPHONE: 929 8544

ALL CORRESPONDENCE
SHOULD BE ADDRESSED
TO:
THE SECRETARY,
BOX 138, POST OFFICE,
MILSONS POINT, 2061

} see also address
at end of letter.

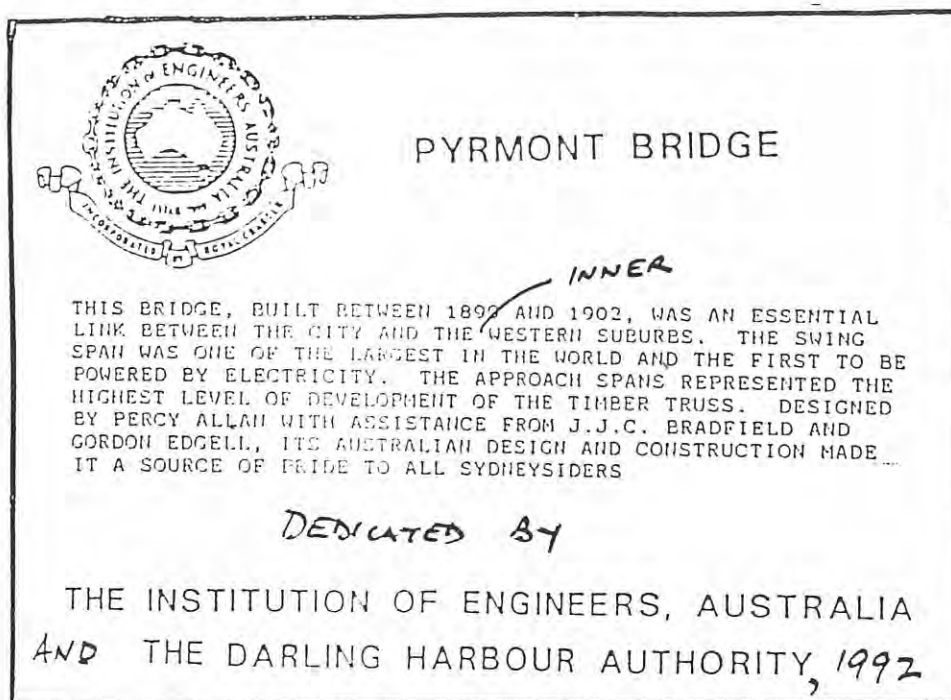
Robert Garing

13 May 1992

Darling Harbour Authority.

Commemorative Plaque for Pyrmont Bridge

I am pleased to advise that the Institution's Plaquing Sub-Committee has awarded the 1902 Pyrmont Bridge its highest heritage classification, that of National Engineering Landmark. Consequently, the Institution will supply two bronze plaques as indicated on pages 4 and 5 of the attached brochure, namely, the round NEL plaque and a rectangular information plaque. For Pyrmont Bridge, the wording of the latter is as follows



Following earlier discussions between yourself and 'Harry' Trueman of Hughes, Trueman and Ludlow about a plaquing ceremony on Sunday 28 June 1992 (the 90th anniversary of the official opening of the bridge), I have been asked by the Sydney Division Heritage Committee to liaise with you in making arrangements.

In accordance with our telephone conversation of 11th instant, I formally request that the ceremony be placed on your Events Calendar.

I look forward to our meeting on Friday 15th to begin planning the event and to visit the site with the NEL plaque to select a suitable location for its permanent display together with the information plaque.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Don Fraser", with a checkmark-like flourish at the end.

D. J. Fraser (Dr)

Member, Engineering Heirtage Committee.

14 Derby Street, Vacluse 2030.

FAX MESSAGE



HUGHES
TRUEMAN
LUDLOW

ENGINEERS PTY. LTD.
A.C.N. 003 330 783
33 ATCHISON STREET, ST. LEONARDS
TELEPHONE (02) 439 2633 FAX (02) 439 2634

Date: 7 May 92

Project No. —

To: } PROF D FRASER

Fax: 663 2188

Attention:

Sender: HUGHES TRUEMAN

Project:

Remarks:

Martin Thomas - Merz Aust 922 2666
11/5/92 booked 28th through his secretary

Number of Pages

(Plus this sheet)

CONTACT AN DARLINE HARRISON RE
INQUIRY

MR JAMES SARRIN 286 0180 direct line

(DHA 286 0180)

28 June

90th birthday

Write official letter.

type of plaques, wording

ask ceremony to be placed
on events calendar

Nº2 Market St
16th floor.

Check office desk
done for time

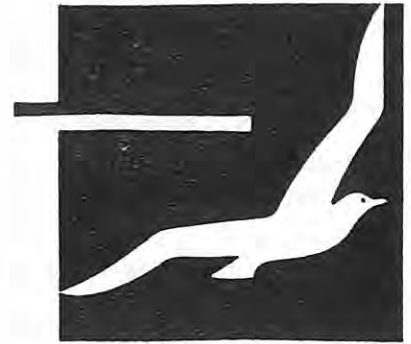
11:00 am?

Fri 15

WELCOME TO DARLING HARBOUR

1991

PYRMONT BRIDGE



DARLING HARBOUR

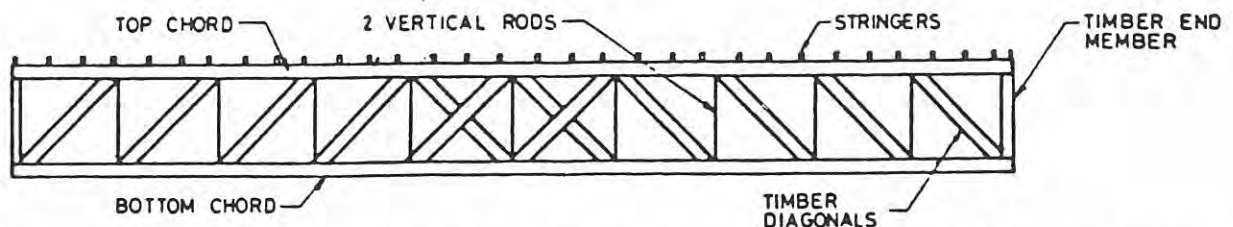
Pier 26, Wheat Road
Darling Harbour N.S.W. 2000
Telephone (02) 267 8088
Facsimile (02) 264 7430

Pymont Bridge was the first electrically-operated swing bridge in the world, therefore it is also the oldest. It was built by the NSW Government - begun on September 6, 1899 and opened to traffic on June 28th 1902. The cost of construction was 112,500 pounds.

The first bridge across Darling Harbour linking the City with Pymont was built by the Pymont Bridge Company as a toll bridge in 1857 and was opened on St. Patrick's Day on 17th March. It was timber with a manually-operated opening swing span. In 1884 the Government bought the bridge for 52,500 pounds and abolished the tolls, then valued at 10,000 pounds per annum.

Because of the poor condition of the original bridge, an international competition was held for the design of a replacement. None of the 26 entries was adopted. Finally, a design by Percy Allen of the Public Works Department was commissioned. Allen, in his 46 years of service to the State, designed 583 bridges in NSW, many of which are standing to this day. The timber truss system as used on Pymont Bridge is known internationally at the "Allen Truss". The Allen Truss represented the ultimate development of the timber truss throughout the world. Allen considered Pymont Bridge to be his finest work. Assisting Percy Allen in calculation for the bridge design and construction was none other than Dr. J.J. Bradfield who later designed the Sydney Harbour Bridge. The electrical/mechanical design for the Swing Span was done by Gordon Edgell who later opened Australia's first cannery at Bathurst. He grew asparagus and other vegetables for his cannery on the river flats in the mid-West of the State.

Elevation of Allen Truss

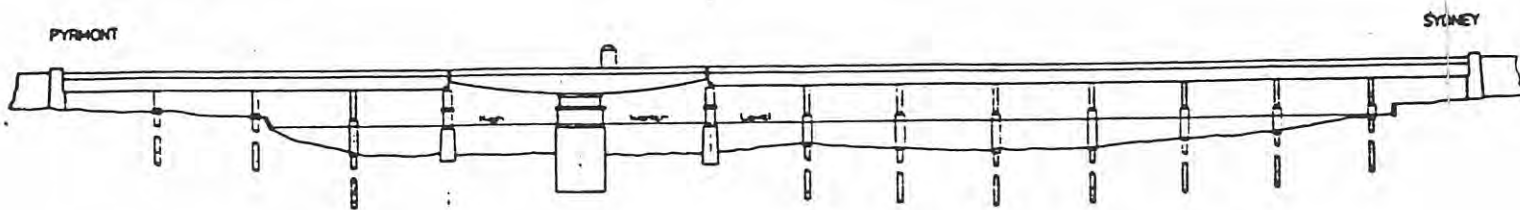


Pymont Bridge was extremely large in size for its time, with 160 square metres greater area than any bridge in the United Kingdom. The Bridge is 369 metres long and consists of twelve spans of timber plus the swing span. The swing span is all steel construction and weighs in the vicinity of 1000 tonnes. The central sandstone faced concrete support weighs an estimated 6,800 tonnes, being 13 metres (42 feet) diameter and 19 metres (62 feet) in depth - 10 metres (33 feet) below the floor of the Harbour. The swing span is driven by two 50hp 600V DC General Electric type 57 electric motors and under normal operation takes about 60 seconds from the closed position to fully opened position, which, contrary to popular belief, is not 90 but 83 degrees.

The controllers used to drive the motors are manual drum-type General Electric tramway controllers. This is not surprising, bearing in mind that at the turn of the century when the Bridge was being built, Sydney's steam trams were being replaced by electric trams; therefore much Tramway equipment was used so "spare parts would be readily available".

For vessels up to 15 metres (49 feet) in height, only the bridge deck is opened. For taller ships the monorail beam is opened with the bridge.

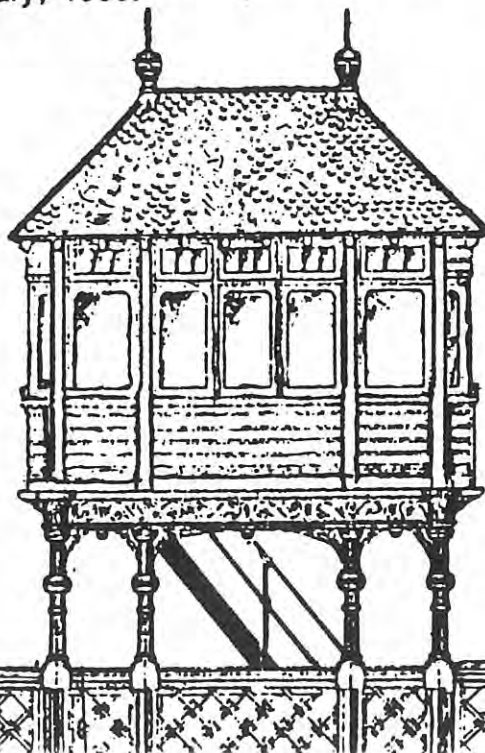
From its completion in 1902, until the end of 1990, Pyrmont Bridge has opened 258,606 times. For the twelve months ending 31/12/90 the Bridge has opened 2808 times.



After Pyrmont Bridge opened in 1902, and its design proven mechanically and electrically superior, another bridge was opened of a similar design at the Glebe Island. The approach spans of Glebe Island Bridge however are made of steel and not timber as is Pyrmont Bridge. Also, at about the same time, the swing span of the old Gladesville Bridge was converted to electric operation, again of a similar design.

During 1907 at an international conference of the Institute of Civil Engineers held in London, Pyrmont Bridge was acclaimed as a marvel in engineering expertise. However, doubts were expressed about reliability when using this new "modern form of energy", Electricity!

Pyrmont Bridge was closed to pedestrians on 27 July, 1981 and vehicles on 7 August, 1981. The Bridge was completely restored as part of the Darling Harbour Development during 1986-1987 and it re-opened to the public as a pedestrian thoroughfare on 16 January, 1988.



GROUP TOURS OF
PYRMONT BRIDGE
CAN BE ARRANGED
BY 'PHONING
BRIDGE OPERATOR
018 228 353